

Purchase Order

DO NOT INVOICE TO THIS ADDRESS
City and County of Denver

Purchasing Division
 201 West Colfax Avenue Dept.304
 Denver, CO 80202
 United States
 Phone: 720-913-8100 Fax: 720-913-8101



Purchase Order FIRES-0000003021	Date 2013-12-20	Revision	Page: 1 of 6
Payment Terms Net30	Freight Terms DESTINATION	Ship Via Common	
Buyer Romero, Michael P. - Purchasin	Phone 720 913 8122	Origin REG	

Vendor: 0000021677 Phone: 920/832-3000 Fax: 920/832-3088

PIERCE MANUFACTURING INC
 PO BOX 2017
 APPLETON WI 54912-2017
 United States

Ship To:
 DFD Repair Shop
 5440 Roslyn Street
 Building B
 Denver CO 80216
 United States

Bill To:
 DFD Administration
 745 West Colfax Avenue
 Denver CO 80204
 United States

Tax Exempt? Y Tax Exempt ID: 98-02890-000

Line-Sch	Vendor Part#/Description	Mfg ID	Quantity	UOM	PO Price	Extended Amt	Due Date
1 - 1	Pierce Fire Apparatus - Type III Engine Wildland		1.00	EA	293500.00	293500.00	05/30/2014
	Req ID: 0000052754						
				Schedule Total		293500.00	
				Item Total		293500.00	

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This PO is for One (1) 2014 Type-3 Wildland Fire Apparatus as specifically outlined in PO Exhibit

Purchase price for the unit is \$298,000 (Pre-Discount) less \$4,500.00 prepayment discount.
 (100% prepayment)

Net unit price with prepayment \$293,500

Payment will be made only after receipt of payment/performance bond and insurance certificate for product liability from vendor.

This pricing includes inspection trips for two (2) City Employees during the construction phase as outlined in PO Exhibit.

Local Contact:
 Duane Doucette
 President
 Front Range Fire Apparatus
 7600 Miller Ct.
 Frederick West Business Park
 Longmont, CO 80504
 Phone: (303) 449-9911 x21
 Cell: (303) 304-6118
 Fax: (303) 449-1203
 email: DuaneD@frontrangefire.com

City Contact:
 Dan Freix
 720-865-3850

Purchased pursuant to DRMC 20-64.5.
 Includes pricing comparable and lower than City of Boulder Bid RFB-09-2013 and Estes Park Valley Protection District RFP Awards.
 Purchase Also Made Under the Provisions of Section 20-64(A)(4) of the Revised Municipal Code.

Title to Read:
 Denver County of
 201 West Colfax Avenue Dept 304
 Denver, CO 80202
 Contact person for delivery and other questions is Dan Freix at 720-865-3850

Funding
 844000 12825 3522300 Z0000 Z0000

-Purchase Order subject to Capital Equipment Ordinance Approval by Denver City Council-

Total PO Amount

\$293,500.00

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Any Discrepancies must be reconciled with the Purchasing Division Buyer before this order is filled.

This Purchase Order may contain an item or items issued pursuant to a Master Purchase Order(s) ("MPO") previously agreed to between the City and the Vendor. All of the terms and conditions of the MPO(s) referenced above shall govern the purchase of the related item(s). The Vendor acknowledges and agrees by accepting this Purchase Order: a) that for any item referencing an MPO and where the terms and conditions stated in this Purchase Order differ from the MPO(s) the PO terms are void and of no effect [unless agreed to in a separate written or electronic acknowledgment between the Vendor and the Director of Purchasing] and b) that where there is no MPO referenced above, the Vendor agrees to be bound by all of the terms and conditions of this Purchase Order.

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TERMS AND CONDITIONS

GENERAL CONDITIONS OF PURCHASE:

1. Non-Exclusive: This Purchase Order is non-exclusive. City does not guarantee any minimum purchase other than as provided herein
2. Inspection and Acceptance: Vendor shall perform all services in accordance with the standard of care exercised by highly competent vendors who perform like or similar services. City may inspect all goods/services prior to acceptance. Payment does not constitute acceptance. Vendor shall bear the cost of any inspection/testing that reveal goods/services that are defective or do not meet specifications. City's failure to accept or reject goods/services shall not relieve Vendor from its responsibility for such goods/services that are defective or do not meet specifications nor impose liability on City for such goods/services. If any part of the goods/services are not acceptable to City, City may, in addition to any other rights it may have at law or in equity: (1) make a warranty claim; (2) repair and/or replace the goods or substitute other services at Vendor's expense; or (3) reject and return the goods at Vendor's cost and/or reject the services at Vendor's expense for full credit. Any rejected goods/services are not to be replaced without written authorization from City, and any such replacement shall be on the same terms and conditions contained in this Purchase Order.
3. Shipping, Taxes and Other Credits and Charges: Vendor shall procure all permits and licenses; pay all charges, taxes and fees; and give all notices necessary and incidental to the fulfillment of this Purchase Order and all cost thereof have been included in the prices contained herein. City shall not be liable for the payment of taxes, late charges or penalties of any nature, except as required by D.R.M.C. § 20-107, et seq. The price of all goods/services shall reflect all applicable tax exemptions. City's Federal Registration No. is 84-6000580 and its State Registration No. is 98-02890. All pricing is F.O.B. destination unless otherwise specified. Shipments must be marked with Vendor's name, the Purchase Order number, and contain a delivery or packing slip. Vendor shall not impose any charges for boxing, crating, parcel post, insurance, handling, freight, express or other similar charges or fees. Vendor shall notify City in writing of any price decreases immediately, and City shall receive the benefit thereof on all unshipped items. Vendor shall comply with any additional delivery terms specified herein. Vendor shall be responsible for the cleanup and reporting of any contamination (environmental or otherwise) or spillage resulting from the delivery and/or unloading of goods within twenty-four (24) hours of the contamination or spillage or sooner if required by law. Vendor shall pay all sales and use taxes levied by City on any tangible personal property built into the goods/services. Vendor shall obtain a Certificate of Exemption from the State of Colorado Department of Revenue prior to the purchase of any materials to be built into the goods/services and provide a copy of the Certificate to City prior to final payment.
4. Risk of Loss: Vendor shall bear the risk of loss, injury or destruction of goods prior to delivery to City. Loss, injury or destruction shall not release Vendor from any obligation hereunder.
5. Invoice: Each invoice shall include: (i) the purchase order number; (ii) individual itemization of the goods/services; (iii) per unit price, extended and totaled; (iv) quantity ordered, back ordered and shipped; (v) an invoice number and date; (vi) ordering department's name and "ship to" address; and (vii) agreed upon payment terms set forth herein.
6. Payment: Payment shall be subject to City's Prompt Payment Ordinance D.R.M.C. § 20-107, et-seq. after City accepts the goods/services. City's payment obligations hereunder, whether direct or contingent, shall extend only to funds appropriated by the Denver City Council for the purpose of this Purchase Order, encumbered for the purpose of this Purchase Order and paid into the Treasury of City. Vendor acknowledges that: (i) City does not by this Purchase Order, irrevocably pledge present cash reserves for payments in future fiscal years; and (ii) this Purchase Order is not intended to create a multiple-fiscal year direct or indirect debt or financial obligation of City. City may setoff against any payments due to Vendor any claims and/or credits it may have against Vendor under this Purchase Order.
7. Amendments/Changes: Only the Manager of General Services or his delegate is authorized to change or amend this Purchase Order by a formal written change order. Any change or amendment that would cause the aggregate payable under this Purchase Order to exceed the amount appropriated and encumbered for this Purchase Order is expressly prohibited and of no effect. Vendor shall verify that the amount appropriated and encumbered is sufficient to cover any increase in cost due to changes or amendments. Goods/services provided without such verification are provided at Vendor's risk. The Vendor has no authority to bind City on any contractual matters.
8. Warranty: Vendor warrants and guarantees to City that all goods furnished under this Purchase Order are free from defects in workmanship and materials, are merchantable, and fit for the purposes for which they are to be used. For any goods furnished under this Purchase Order which become defective within twelve (12) months (unless otherwise specified) after date of receipt by City, Vendor shall either, at City's election and to City's satisfaction, remedy any and all defects or replace the defective goods at no expense to City within seven (7) days of receipt of the defective goods or accept the defective goods for full credit and payment of any return shipping charges. Vendor shall be fully responsible for any and all warranty work, regardless of third party warranty coverage. Vendor shall furnish additional or replacement parts at the same prices, conditions and specifications delineated herein.
9. Indemnification/Limitation of Liability: Vendor shall indemnify and hold harmless City (including but not limited to its employees, elected and appointed officials, agents and representatives) against any and all losses (including without limitation, loss of use and costs of cover), liability, damage, claims, demands, actions and/or proceedings and all costs and expenses connected therewith (including without limitation attorneys' fees) that arise out of or relate to any claim of infringement of patent, trademark, copyright, trade secret or other intellectual property right related to this Purchase Order or that are caused by or the result of any act or omission of Vendor, its agents, suppliers, employees, or representatives. Vendor's obligation shall not apply to any liability or damages which result solely from the negligence of City. City shall not be liable for any consequential, incidental, indirect, special, reliance, or punitive damages or for any lost profits or revenues, regardless of the legal theory under which such liability is asserted. In no event shall City's aggregate liability exceed the agreed upon cost for those goods/services that have been accepted by City under this Purchase Order up to the Total Purchase Order Amount. Notwithstanding anything contained in this Purchase Order to the contrary, City in no way limits or waives the rights, immunities and protections provided by C.R.S. § 24-10-101, et seq.
10. Termination: City may terminate this Purchase Order, in whole or in part, at any time and for any reason immediately upon written notice to Vendor. In the event of such a termination, City's sole liability shall be limited to payment of the amount due for the goods/services accepted by City. Vendor acknowledges the risks inherent in this termination for convenience and expressly accepts them. Termination by City shall not constitute a waiver of any claims City may have against Vendor.
11. Interference: Vendor shall notify the Director of Purchasing immediately of any condition that may interfere with the performance of Vendor's obligations under this Purchase Order and confirm such notification in writing within twenty-four (24) hours. City's failure to respond to any such notice shall in no way act as a waiver of any rights or remedies City may possess.
12. Venue, Choice of Law and Disputes: Venue for all legal actions shall lie in the District Court in and for City and County of Denver, State of Colorado, and shall be governed by the laws of the State of Colorado as well as the Charter and Revised Municipal Code, rules, regulations, Executive Orders, and fiscal rules of City. All disputes shall be resolved by administrative hearing, pursuant to the procedure established by D.R.M.C. § 56-106. Director of Purchasing shall render the final determination.
13. Assignment/No Third Party Beneficiary: Vendor shall not assign or subcontract any of its rights or obligations under this Purchase Order without the written consent of City. In the event City permits an assignment or subcontract, Vendor shall continue to be liable under this Purchase Order and any permitted assignee or subcontractor shall be bound by the terms and conditions contained herein. This Purchase Order is intended solely for the benefit of City and Vendor with no third party beneficiaries

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14. Notice: Notices shall be made by Vendor to the Director of Purchasing and by City to Vendor at the addresses provided herein, in writing sent registered, return receipt requested.

15. Compliance With Laws: Vendor shall observe and comply with all federal, state, county, city and other laws, codes, ordinances, rules, regulations and executive orders related to its performance under this Purchase Order. City may immediately terminate this Purchase Order, in whole or in part, if Vendor or an employee is convicted, plead nolo contendere, or admits culpability to a criminal offense of bribery, kickbacks, collusive bidding, bid-rigging, antitrust, fraud, undue influence, theft, racketeering, extortion or any offense of a similar nature.

16. Insurance: Vendor shall secure, before delivery of any goods/services, the following insurance covering all operations, goods and services provided to City. Vendor shall keep the required insurance coverage in force at all times during the term of the Purchase Order, or any extension thereof, during any warranty period, and for three (3) years after termination of this Purchase Order. The required insurance shall be underwritten by an insurer licensed to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision stating "Should any of the above-described policies be canceled or non-renewed before the expiration date thereof, the issuing company shall send written notice to the Denver Risk Management, 201 West Colfax Avenue, Dept. 1105, Denver, Colorado 80202. Such written notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior." Additionally, Vendor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the address above by certified mail, return receipt requested. If any policy is in excess of a deductible or self-insured retention, City must be notified by Vendor. Vendor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Purchase Order are the minimum requirements, and these requirements do not lessen or limit the liability of Vendor. Vendor shall provide a copy of this Purchase Order to its insurance agent or broker. Vendor may not commence services or work relating to the Purchase Order prior to placement of coverage. Contractor certifies that the attached certificate of insurance attached to the Purchase Order documents, preferably an ACORD certificate, complies with all insurance requirements of this Purchase Order. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Purchase Order shall not act as a waiver of Vendor's breach of this Purchase Order or any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements. Vendor's insurer shall name as Additional Insured to its Commercial General Liability and Business Auto Liability policies the City and County of Denver, its elected and appointed officials, employees and volunteers. Vendor's insurer shall waive subrogation rights against the City. All sub-contractors and sub-consultants (including independent contractors, suppliers or other entities providing goods/services required by this Purchase Order) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of Vendor. Vendor shall include all such entities as insureds under its policies or shall ensure that they all maintain the required coverages. Vendor shall provide proof of insurance for all such entities upon request by City. For Worker's Compensation Insurance, Vendor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 for each bodily injury occurrence claim, \$100,000 for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Vendor expressly represents to City, as a material representation upon which City is relying, that none of the Vendor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Purchase Order, and that any such rejections previously effected, have been revoked. Vendor shall maintain Commercial General Liability coverage with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate. Vendor shall maintain Business Auto Liability coverage with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-hired vehicles used in performing services under this Purchase Order. For Commercial General Liability coverage, the policy must provide the following: (i) That this Purchase Order is an Insured Contract under the policy; (ii) Defense costs in excess of policy limits; (iii) A severability of interests, separation of insureds or cross liability provision; and (iv) A provision that coverage is non-contributory with other coverage or self-insurance provided by City. For claims-made coverage, the retroactive date must be on or before the first date when any goods or services were provided to City. Vendor must advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

17. Severability: if any provision of this Purchase Order, except for the provisions requiring appropriation and encumbering of funds and limiting the total amount payable by City, is held to be invalid, illegal or unenforceable by a court of competent jurisdiction, the validity of the remaining portions or provisions shall not be affected if the intent of City and Vendor can be fulfilled.

18. Survival: All terms and conditions of this Purchase Order which by their nature must survive termination/expiration shall so survive. Without limiting the foregoing, Vendor's insurance, warranty and indemnity obligations shall survive for the relevant warranty or statutes of limitation period plus the time necessary to fully resolve any claims, matters or actions begun within that period. Bonds shall survive as long as any warranty period.

19. No Construction Against Drafting Party: No provision of this Purchase Order shall be construed against the drafter.

20. Status of Vendor/Ownership of Work Product: Vendor is an independent contractor retained on a contractual basis to perform services for a limited period of time as described in Section 9.1.1E(x) of the Charter of City. Vendor and its employees are not employees or officers of City under Chapter 18 of the D.R.M.C. for any purpose whatsoever. All goods, deliverables, hardware, software, plans, drawings, reports, submittals and all other documents or things furnished to City by Vendor shall become and are the property of City, without restriction.

21. Records and Audits: Vendor shall maintain for three (3) years after final payment hereunder, all pertinent books, documents, papers and records of Vendor involving transactions related to this Purchase Order, and City shall have the right to inspect and copy the same.

22. Remedies/Waiver: No remedy specified herein shall limit any other rights and remedies of City at law or in equity. No waiver of any breach shall be construed as a waiver of any other breach.

23. No Discrimination in Employment: Vendor shall not refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and Vendor shall insert the foregoing provision in any subcontracts hereunder.

24. Use, Possession or Sale of Alcohol or Drugs: Vendor shall cooperate and comply with the provisions of Executive Order 94. Violation may result in City terminating this Purchase Order or barring Vendor from City facilities or from participating in City operations.

25. Conflict of Interest: No employee of City shall have any personal or beneficial interest in the goods/services described in this Purchase Order; and Vendor shall not hire or contract for services any employee or officer of City which would be in violation of City's Code of Ethics, D.R.M.C. §2-51, et seq. or the Charter §§ 1.2.8, 1.2.9, and 1.2.12.

26. Advertising and Public Disclosure: Vendor shall not reference the goods/services provided hereunder in any of its advertising or public relations materials without first obtaining the written approval of the Manager of General Services.

27. NO EMPLOYMENT OF ILLEGAL ALIENS TO PERFORM WORK UNDER THE AGREEMENT: a. This Agreement is subject to Division 5 of Article IV of Chapter 20 of the Denver Revised Municipal

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Code, and any amendments (the "Certification Ordinance"). b. The Contractor certifies that: (1) At the time of its execution of this Agreement, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement. (2) It will participate in the E-Verify Program, as defined in § 8-17.5-101(3.7), C.R.S., to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement. c. The Contractor also agrees and represents that: (1) it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement. (2) It shall not enter into a contract with a subconsultant or subcontractor that fails to certify to the Contractor that it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement. (3) It has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement, through participation in the E-Verify Program. (4) It is prohibited from using the E-Verify Program procedures to undertake pre-employment screening of job applicants while performing its obligations under the Agreement, and that otherwise requires the Contractor to comply with any and all federal requirements related to use of the E-Verify Program including, by way of example, all program requirements related to employee notification and preservation of employee rights.

(5) If it obtains actual knowledge that a subconsultant or subcontractor performing work under the Agreement knowingly employs or contracts with an illegal alien, it will notify such subconsultant or subcontractor and the City within three (3) days. The Contractor will also then terminate such subconsultant or subcontractor if within three (3) days after such notice the subconsultant or subcontractor does not stop employing or contracting with the illegal alien, unless during such three-day period the subconsultant or subcontractor provides information to establish that the subconsultant or subcontractor has not knowingly employed or contracted with an illegal alien. (6) It will comply with any reasonable request made in the course of an investigation by the Colorado Department of Labor and Employment under authority of § 8-17.5-102(5), C.R.S. or the City Auditor, under authority of D.R.M.C. 20-90.3. d. The Contractor is liable for any violations as provided in the Certification Ordinance. If Contractor violates any provision of this section or the Certification Ordinance, the City may terminate this Agreement for a breach of the Agreement. If the Agreement is so terminated, the Contractor shall be liable for actual and consequential damages to the City. Any such termination of a contract due to a violation of this section or the Certification Ordinance may also, at the discretion of the City, constitute grounds for disqualifying Contractor from submitting bids or proposals for future contracts with the City.

28. In order to receive payment, a complete and responsive invoice must be submitted as required by the City's Prompt Payment Ordinance Article VII of Chapter 20, D.R.M.C., which includes clearly stating the City-generated purchase order or contract number on the invoice and complying with the City's invoicing instructions, including delivery of the invoice to the proper City official or agency.

Authorized Signature

FOR FURNISHING FIRE APPARATUS

December 04, 2013

City and County of Denver

The undersigned is prepared to manufacture for you, upon an order being placed by you, for final acceptance by Pierce Manufacturing, Inc., at its home office in Appleton, Wisconsin, the apparatus and equipment herein named and for the following prices:

(1) Pierce IHC 7400 4x4 Type-3 per attached component list \$298,000.00
Delivery is approximately 5.5 months

Option 1: Make 100% Prepayment of \$293,500.00
Due in Net 30 Days of Signed Contract Deduct \$4,500.00

Total \$ _____

Said apparatus and equipment are to be built and shipped in accordance with the specifications hereto attached, delays due to strikes, war, or intentional conflict, failures to obtain chassis, materials, or other causes beyond our control not preventing, within about 5.5 months after receipt of this order and the acceptance thereof at our office at Appleton, Wisconsin, and to be delivered to you at Denver, CO

The specifications herein contained shall form a part of the final contract, and are subject to changes desired by the purchaser, provided such alterations are interlined prior to the acceptance by the company of the order to purchase, and provided such alterations do not materially affect the cost of the construction of the apparatus.

The specifications for fire apparatus conforms with all Federal Department of Transportation (DOT) rules and regulations in effect at the time of bid, and with all National Fire Protection Association (NFPA) Guidelines for Automotive Fire Apparatus as published at the time of bid, except as modified by customer specifications. Any increased costs incurred by first party because of future changes in or additions to said DOT or NFPA standards will be passed along to the customers as an addition to the price set forth above.

Unless accepted within 30 days from date, the right is reserved to withdraw this proposition.

PIERCE MANUFACTURING, INC.

By: _____
 Duane Doucette
 SALES REPRESENTATIVE





Option List

12/19/2013

Customer: Denver Fire Department
Representative Doucette, Duane
Organization: Front Range Fire Apparatus, Ltd
Requirements Manager:
Description: 27356 IHC 7400 Wildland
Body: Pumper, Wildland, Type 3, PMFD
Chassis: International 7400, 4x4 Single Rear Axle, WITH PRICING

Bid Number: 532
Job Number:
Bid Date: 12-02-2013
Stock Number: 27356
DBVersion: 02.00.0452.0000

Line	Option	Type	Option Description	Qty
1	0596819	SP	Build To Order, Wildland, PMFD	1
2	0584455		Manufacture Location: Bradenton, Florida	1
3	0584453		RFP Location: Bradenton, Florida	1
4	0588609		Vehicle Destination, US	1
5	0581757		Boiler Plates,1906, Wildland, PMFD	1
6	0018257		Commercial chassis & Snorkel products	1
7	0028079		Match Not Required	1
8	0531224		Comply w/NFPA 1906 Current Edition, Wildland	1
9	0547534		1906 Wildland Fire Apparatus	1
10	0588619		Not Required, Vehicle Certification	1
11	0568412		Agency, Apparatus Certification, Pumper/Tanker, Third Party, PMFD	1
12	0008036		Career/Paid Department	1
13	0000000	STF	Inspection trip #1 - when - number of people Location - in Bradenton FL to review the construction of the unit Qty, - 02	2
14	0537375		Unit of Measure, US Gallons	1
15	0030006		Bid Bond not requested	1
16	0582800		Performance Bond, 100 Percent w/25 Percent Warranty Bond, 1 Yr, and Payment Bond	1
17	0057914		Reference Drawing	1
18	0589819		Electrical Diagrams, Commercial	1
19	0689236		International 7400, 4x4 Single Rear Axle, WITH PRICING	1
20	0652822		Base Price, International, 7400, 4x4, Pricing Level 3/1/2013	1
21	0686544		Wheelbase, 181" thru 205", IHC 7400, 4x4 Wheelbase - 185"	1
22	0584367		GVW Rating, Commercial Chassis GVW rating - 37,000 pounds	1
23	0027644		Frame, Chassis, IHC 4000/7000	1
24	0686546		Frame Reinforcement, "C" Channel, International 7400 4x4	1
25	0688782		Axle, Front, 14K Rating, International 7400 4x4	1
26	0012952		Suspension, Front Spring, 14,000 lb IHC	1
27	0073051		Shock Absorbers, Front	1
28	0585779		Goodyear Tires (Default Brand)	1
29	0683150		Tires, Goodyear, 22.50, Traction Tread, 4x4	1
30	0683147		Wheel, Steel, 22.50", Commercial Chassis, 4x4	1
31	0688777		Axle, Rear, Dana Spicer, 23K Rating, International 7400 4x4	1
32	0024218		Top Speed of Vehicle, Commercial Chassis Top Speed of Vehicle - 70 to 73	1
33	0062960		Suspension, Rear Spring, 23,500 lb w/4500 lb Aux. IHC	1
34	0679961		Oil, Synthetic Gear, 23K Rear Axle, IHC 7400 4x4,	1
35	0008102		Dust Shields, Front and Rear Brakes, Commercial Chassis	1
36	0683149		Tires, Goodyear, 22.50, Traction Tread, 4x4	1
37	0683146		Wheel, Steel, 22.50", Commercial Chassis, 4x4	1
38	0545391		Tire Pressure Monitoring Valve Cap	1

		Qty, Tire Pressure Ind - 10	
39	0544731	Chocks, Wheel, Not Required, NFPA 1906 Apparatus	1
40	0544732	Mounting Brackets, Chocks, Not Required, NFPA 1906 Apparatus	1
41	0020873	ABS, Bendix Anti-Lock Braking System, Commercial Chassis	1
42	0072991	Brakes, Cam Front, 16.50"x 5.00" IHC	1
43	0010783	Air Compressor, Brake, Bendix 13.2 CFM, IHC	1
44	0024122	Air Dryer, Brake, AD-IP w/Heater, IHC/FLR/Kw/Pete	1
45	0010574	Air Inlet, w/Disconnect Coupling, Commercial Chassis	1
		Location, Air Coupling(s) - a) DS Step Well	
46	0682894	Engine, MaxxFforce DT, 300 hp - IHC, 7400 4x4	1
47	0505329	High Idle w/Electronic Engine, Wildland, PMFD	1
48	0688762	Auxiliary Brake, Engine Brake - IHC 7400/7500, 4x4	1
49	0691420	Engine Block Heater, IHC 7400 4x4, / 7500	1
50	0065826	Air Intake, w/Ember Separator, Supplier Installed, IHC 7000 Series	1
51	0648781	Exhaust System, Horizontal, Right Side Exit, 7400 4x4, IHC, Wildland	1
52	0584338	Exhaust Modifications, International, Horizontal, PS Exit	1
53	0071090	Coolant Hoses, Rubber - IHC/Ford	1
54	0688058	Fuel Tank, 50 gal. Aluminum, Left Side, IHC 7400 4x4	1
55	0552793	Not Required, Fuel Priming Pump	1
56	0552712	Not Required, Shutoff Valve, Fuel Line	1
57	0023746	Cooler, Chassis Fuel, Not Req'd.	1
58	0001285	Fuel Pump for Aux. Pump / Generator	1
59	0505969	Chassis Fuel Line Protection, Fire Wrap, Wildland	1
60	0055984	Trans, Automatic, Allison 3000 EVS, w/(2) PTO Provisions, IHC	1
61	0060098	Transmission, Shifter, Push Button, 5 Speed, IHC	1
		Trans, ratio - 3000 EVS, 5Spd	
62	0011475	Transmission Oil Cooler, Internal, Commr	1
63	0011370	Driveline, Commr Chassis	1
64	0553777	SP Driveline Reviewed & Approved	1
65	0692499	Steering, Hydraulic Power, w/Tilt Column, Commercial Chassis	1
66	0505071	Skid Plate, For Fuel Tank, Commercial Chassis	1
67	0003174	Bumper Extension, 19", Commercial Chassis	1
68	0002270	Tow Hooks, Chrome	1
69	0659326	Center Tray Not Required	1
70	0591013	Hose Restraint, Bumper Tray, Velcro Straps, Pair	1
		Location 7 - passenger & driver's side	
		Qty, Pair -	
71	0012251	Tray, (1) Hose Left Side of Bumper	1
		Grating, Bumper extension - Grating, Rubber	
		Capacity, Bumper Tray - 04) 50' of 1.50"	
72	0012222	Tray, (1) Hose Right Side of Bumper	1
		Grating, Bumper extension - Grating, Rubber	
		Capacity, Bumper Tray - 04) 50' of 1.50"	
73	0686530	Cab, 4-door Crew Cab, IHC 7400 4x4	1
74	0024223	Cab Interior, IHC, Gray	1
75	0582768	Grille, Chromed Plastic, Stationary, International	1
76	0686483	Mirrors, West Coast, Integral Cnvx,Heated&Remote, LED,Bright, IHC 7400 4x4	1
77	0027013	Not Required, Peeper Window	1
78	0518544	Step Package, w/4-way Trim, Front Doors Only, Wildland, PMFD	1
79	0510546	SP Compartment, Tool, Under LH Crew Cab, Vert Hinge, PMFD Wildland	1
80	0073119	SP Compartment, Storage/Tool, Under Right Cab	1
81	0509494	Lights, Cab and Crew Cab Access Steps, P25, LED, 8 Lights	1
82	0510699	Ember Separator, HVAC Air Inlets, IHC, Pierce Installed	1
83	0517654	Window, Blank Panel, At Rear of Cab, IHC, Wildland, PMFD	1

84	0561628	Air Conditioning, International	1
85	0510713	Light, Engine Compt, Commercial Chassis	1
86	0066813	Console, IHC Four (4) Door, Radios, Map Storage	1
87	0584368	Seating Capacity, Cab, Commercial	5
		Qty, - 05	
88	0686472	Seats, Cab, Air driver w/Air officer - IHC 7400 4x4	1
89	0686481	Seats, 2-man, National, Non-SCBA - IHC 7400 4x4	1
90	0065834	Bracket, SCBA Not Req'd, No SCBA Seats, Commr Cab	1
91	0551164	Seat Belt Web Length, Commercial Chassis	1
92	0584364	Seat Belts, Red, Commercial Chassis	1
93	0691237	Seat Belt Monitoring System	1
94	0543917	Helmet Storage, Provided by Fire Department	1
95	0547535	Portable Hand Light, Not Required, NFPA 1906 2006 Apparatus	1
96	0584358	Cab Instrumentation, Commercial Chassis	1
97	0034640	Panel, Emergency Switch , IHC, Ford	1
98	0005937	Light, Do not move apparatus, Commercial	1
		Alarm, Do Not Move Truck - n)no alarm	
99	0005926	Light, Open Door - Comm Std	1
100	0072620	Wiper control, intermittent feature Commercial	1
101	0548004	Wiring, Spare, 15 A 12V DC 1st	2
		Qty, - 02	
		12vdc power from - Battery direct	
		Wire termination - p) 15 amp power point plug	
		Location - two (2) on the front of the console	
102	0535234	Vehicle Data Recorder, Single Module	1
103	0684706	Wiring, Commercial Chassis, Diamond Logix MUX, Wildland, IHC 7400/7500 4x4	1
104	0680737	Single Start, (3) Grp 31, 650 CCA each, 1950 CCA, IHC 7400 4x4	1
105	0583981	Battery Relocation Not Required	1
106	0072685	Selector, Single Start Battery, Commercial Chassis	1
107	0579436	Charger, Sngl Sys, Kussmaul, 1200, 091-187-12-Remote, 40 Amp	1
108	0012782	Location, Charger, Left Side Body Compartment	1
		Location - high on the rear wall D2, high as possible, mouted horizontally	
109	0530949	Location, Battery Charger Indicator, Driver's Seat Riser	1
110	0075362	Shoreline, 15A, 120V, Kussmaul Super Auto Eject, PMFD	1
		Color, Kussmaul Cover - d) yellow	
		Connection, Shoreline - battery charger	
111	0067386	Shoreline Location, Fill-In-Blank Feature	1
		Location 1 - on the driver side rear bulkhead	
112	0070456	Alternator, 320 amp Leece-Neville, IHC	1
113	0082114	Not Required, Load Manager Included w/ IHC Diamond Logic MUX	1
114	0072785	Cab Lighting, Commercial Chassis	1
115	0590908	Lights, Identification/Clearance, Rear, Truck-Lite, 33 LED	1
116	0540516	Lights, Tail, Truck-Lite 4.00" Round Grommet Mount, LED lights	1
117	0506677	Lights, Backup, Truck-Lite Model 44206C, Round Grommet Mount, LED	1
118	0664481	Bracket, License Plate & Light, P25 LED	1
119	0589905	Alarm, Back-up Warning, PRECO 1040	1
120	0687604	Lights, Perimeter Scene Cab Exits, Truck-Lite 6060C, LED Grommet Mt 4 Dr	1
121	0538271	Lights, Perimeter Scene, Truck-Lite 6060C LED Grmt (4) Lts Pump Panel/Rear Step	1
		Switch, Location, Perim - cab and pump panel	
122	0556360	Lights, Step, P25 LED 4lts	1
123	0511749	Light, Step, Additional, P25 LED	5
		Qty, Lights - 05	
		Location, lights - Lighting for rear steps.	
124	0589761	Light, Whelen, 12V PFP1 Pioneer LED Floodlt, PBA103 Recessed 15 Deg 2nd	1

	Location, lights - at the front of the body on the passenger side at the same height as the upper warning light	
	Qty, - 01	
	Switch, Lt Control 1 DC,1 - a) DS Switch Panel	
	Switch, Lt Control 2 DC,2 - e) No Control	
	Switch, Lt Control 3 DC,3 - d) No Control	
	Switch, Lt Control 4 DC,4 - d) No Control	
	Color, WIn Lt Housing - White Paint	
125 0589768	Light, Whelen, 12V PFP1 Pioneer LED Floodlt, PBA103 Recessed 15 Deg 1st	2
	Location, lights - one each side in the upper part of the rear bulkhead	
	Qty, - 02	
	Switch, Lt Control 1 DC,1 - a) DS Switch Panel	
	Switch, Lt Control 2 DC,2 - e) No Control	
	Switch, Lt Control 3 DC,3 - d) No Control	
	Switch, Lt Control 4 DC,4 - d) No Control	
	Color, WIn Lt Housing - White Paint	
126 0589760	Light, Whelen, 12V PFP1 Pioneer LED Floodlt, PBA103 Recessed 15 Deg 3rd	1
	Location, lights - at the front of the body on the driver side at the same height as the upper warning light	
	Qty, - 01	
	Switch, Lt Control 1 DC,1 - a) DS Switch Panel	
	Switch, Lt Control 2 DC,2 - e) No Control	
	Switch, Lt Control 3 DC,3 - d) No Control	
	Switch, Lt Control 4 DC,4 - d) No Control	
	Color, WIn Lt Housing - White Paint	
127 0505444	Lights, Hella Picador Model 90645 or H15522041	1
	Qty, Lights - 01	
	Location, lights - mounted centered on the front of the hose bed cargo area.	
	Switch, 1 Scene Cntrl - a)driver side cab sw panel	
	Switch, 2 Scene Cntrl - b) pump panel	
	Switch, 3 Scene Cntrl - n) No additional control, 3	
128 0531432	Not Required, Lights, Rear Deck, Elliptical Tanker, 1906 Wildland	1
129 0504675	SP Pumper, Wildland, Type 3, PMFD	1
130 0511683	Water Tank, Poly, 500 Gallon, Wildland, PMFD	1
131 0006764	Tank Fill, 2.0" Hawk	1
132 0028104	Foam Cell Required	1
133 0062676	Gauge, Water Level, Class 1, Master W/ Mini Slave	1
134 0511343	Tailboard, Rear, 10" x 96", w/ Drop Down Step, Wildland, PMFD	1
135 0044431	Sleeve through Tank - Up to 3" Plumbing	1
	Qty, Sleeve - 1	
136 0553725	Restraint, Water Tank, Heavy Duty, Special Type Tank, 4x4, or Export	1
137 0039104	Tank Fill, Direct, 2.5", Rear, Hawk, Wildland	1
	Qty, - 1	
	Location, driver's/passenger's/center - driver's	
	Adapter, Elbow - 2.5"NST	
138 0510548	Hose Bed, Wildland	1
139 0594689	Hose Bed Capacity, Special, Wildland	1
140 0059656	Divider, Hose Bed, .25" Unpainted, PMFD	2
	Qty, Hosebed Dividers - 2	
141 0527434	Lights, Below Alum Hose Bed Cover, Truck-Lite 19200C, Wildland	1
142 0681824	Door, Access, Aluminum Hose Bed Cover, Each	

		Qty, - 1	
		Location - over water fill tower	
143	0510553	Cover, Hose Bed, Alum Treadplate, Wildland, PMFD	1
144	0697328	Flap, Rear of Alum Hose Bed Cover, Two Piece, Vinyl, w/Seat Belt Buckles	1
		Color, Vinyl Cover - c) black	
145	0013512	Runningboard, 12.75" Deep	1
146	0063506	Tow Eyes (2), Under Tailboard	1
147	0026424	Compt, Rear, Hawk, Double Door, 32.5" H X 36" W FF	1
148	0599976	Perforated Edge in Side Running Boards and Tailboard	1
149	0505887	Construction, Compt, Galv, Wildland, PMFD	1
150	0048785	D.S. Hawk, Short, Full ht., Short, 1 Lift up, Lap, Model 14	1
151	0048788	P.S. Hawk, Short, Full ht., 1 Lift-up, Lap, Model 14	1
152	0527467	Doors, ALUMINUM, Lap w/"D" Handle - Side Compartments, Wildland, PMFD	1
153	0597111	Not Required, Pull Strap	1
154	0010414	Keyed Locks for Latches, Lap Doors, Key Style 1250	9
		Qty, Door Accessory - 09	
		Location, Door Accessory - compartments D-1, D-2, P-1, P-2, P-3, R-1, ladder storage compartment, and the compartments under the crew cab	
155	0003918	Pull Strap for Doors	2
		Qty, Door Accessory - 02	
		Location, Door Accessory - both over the wheel lift-up compartments	
156	0689549	Lights, Compt, Pierce LED, Dual Light Strips, Each Side of Door	8
		Location - compartments D1, D2, P1, P2, P3, compartments under the crew cab on DS & PS sides, and R1.	
		Qty, - 08	
157	0687146	Shelf Tracks, Painted	5
		Qty, Shelf Track - 05	
		location - D-1, D-2, P-1, P-2, and R-1 (Customer wants this option)	
158	0506324	Compts, Hatch Style, Above High Side Compts, Wildland, PMFD	1
159	0004016	Rubrail, Aluminum Extruded, Side of Body	1
160	0004035	Fender Crowns, Rear, Rubber	1
161	0527021	Handrails Located @ Front Body	1
162	0531152	Handrails, Rear Bulkhead, Wildland	1
163	0000941	No Handrail, Rear Above Hose Bed Req'd.	1
164	0507238	Compt, Air Bottle in Fender, Cast Prod Dr, Bottle Retaining Strap, Special	1
165	0024448	Ladder, 16' Duo-Safety 912A 3-Sec,86" Closed Lngth	1
166	0074231	No Roof Ladder Req'd	1
167	0679481	SP Ladder Mtg, (3) 2.50" HSH, in Hose Bed, Enclosed, PMFD Wildland	1
168	0695825	Not Required, Step Package, Body, w/4x4 Chassis, Wildland, PMFD	1
169	0506700	Step, Rear Body, Cast Products Model SP2011	4
		Location, Additional Step - Per the AD drawing	
		Qty, - 04	
170	0650260	I Zone Bracket, Pair, Wildland Style	1
		Fill in Blank - One on each side of the body.	
171	0004387	Step, Wedge - Extra	2
		Location, Additional Step - below the hose bed on each side at the rear. Steps should be as wide as practical and a minimum of 8.00" deep.	
		Qty, Add. Wedge Step - 2	
172	0594681	Pump, Darley, LSP, 1000 GPM, Single Stage, PTO Drive, Wildland, PMFD	1
173	0007153	Mechanical Seals, Darley	1
174	0091446	Pump Setup Charges N/A	1
175	0014633	Transmission, PTO, 3 Gear, Darley Pump	1
176	0017177	Pumping Mode	1
		Pumping Mode - Pump in Motion	

177	0510560	Shift, PTO Pump, PMFD Wildland	1
178	0581602	Transmission Lock-up, Not Req'd, PTO Pump	1
179	0004547	Auxiliary Cooling System	1
180	0014486	(No Transfer Valve Required on 1 Stage Pump)	1
181	0004517	Valve, Relief Intake, Elkhart	1
182	0004528	Valve, Pump Relief w/ Indicator Lights,Darley	1
183	0512017	Primer, Waterous, VPO, Oil Free, (2) Push Buttons	1
184	0506189	Cover, Auxiliary Pump	1
185	0517155	Line, .38" Recirculating, Automatic, NFPA 1906, PMFD Wildland	1
186	0510834	Outlet, Back Pack Pump Filler, Gravity Fed From Tank	1
187	0642656	SP Pump Darley 1.5AGE-26BS,Dual Control, Cargo Area, Wildland,Stock units only	1
		Fill in Blank - *	
		Location, Thermal Relief Discharge -	
188	0004560	Manuals, Pump (2)	1
189	0020624	Plumbing, Stainless Steel and Hose, PMFD/Hawk EX	1
190	0064656	Not Required, Black Iron Pipe with S/S Plumbing	1
191	0004637	Inlet, 5.00" - 1000 GPM Pump, Driver' s Side Only	1
192	0004646	Cap, Long Handle Pump Inlet, NST - VLH	1
193	0084610	Valves, Akron 8000 series- All	1
194	0505201	Inlet, LH Side, 2.50" Gated, Wildland	1
195	0004680	Inlet, RH Side, 2.50" Gated	1
196	0004685	Valve, Inlet(s) - Outside Panel	1
197	0505132	Anode, Zinc, Pair, Pump, 1-Inlet & 1 Discharge Side	1
198	0004700	Control, Inlet, at Valve	1
199	0092568	No Rear Auxiliary Inlet Requested	1
200	0563738	Valve, .75 Bleeder, Aux. Side Inlet, Swing Handle	1
201	0520031	Line, (1) 3.00" Tank to Pump w/4.00" Plumbing, Reverse Control, PMFD Wildland	1
202	0505195	Outlet(s), LH Side, 2.50", Wildland, PMFD	1
		Qty, Discharges - 01	
203	0062025	Outlet, LH Side, 2.50" w/2.00" Plumbing, Below Deadlays, Valve at Outlet	1
		Qty, Discharges - 01	
204	0527038	Outlet(s), RH Side, 2.50", PMFD Wildland	1
		Qty, Discharges - 01	
205	0085030	Outlet, RH Side, 2.50" w/2.00" Plumbing, Below Deadlays, Valve at Outlet	1
		Qty, Discharges - 01	
206	0029137	No Large Diameter Discharge Requested	1
207	0505193	Outlets, Front 1.5" w/2" Plumbing,Dual Valves at Outlet,DS-PS,1906 Wildland, IHC	1
208	0517650	Outlet, Rear, 2.50", Valve at Outlet, PMFD Wildland	1
		Qty, Discharges - 01	
		Location, Outlet - a) passenger's side	
209	0092574	No Rear Outlet (Added) Requested	1
210	0092573	No Hosebed/Running Board Outlet Requested	1
211	0085076	Caps for 1.50" - 3.00" Discharges - VLH	1
212	0502593	Not Required, Bleeders, NFPA 1906	1
213	0065091	Elbows,30 Degree - 2.50" Outlets LH - VLH	1
214	0035094	No Elbows Req'd (Added LH Outlets)	1
215	0085096	Elbows, 30 Degree - 2.50" Outlets RH - VLH	1
216	0017918	Elbows, 30 Degree - Added 2.50" Outlets RH - VLH	1
		Qty, Discharges - 01	
217	0045099	No Elbows Req'd, Rear Outlets	1
218	0085695	No Elbows Req'd, Added Rear, Large Outlet	1
219	0007308	No Elbows Req'd, Side Large Dia Discharge	1
220	0062133	Control, Outlets, Manual, Pierce HW if applicable	1
221	0029106	No Deluge Riser Requested	1

222	0029302	No Monitor Requested	1
223	0029304	No Nozzle Req'd	1
224	0029107	No Deluge Mount	1
225	0025140	Not Required, 1.50" Crosslays	1
226	0029196	No 2.50" Crosslay Requested	1
227	0090544	Deadlay, Special Size, Wildland	1
228	0591098	Hose Restraint, Speedlay, Vinyl, Fasteners, Each Side	1
		Color, Vinyl Cover - c) black	
		Qty, - 01	
		Type of fastener - Velcro/Snaps - 1 side of crosslay/deadlay/speedlay	
		Restraint Location - Back (towards rear of truck)	
229	0512040	Tray, Poly, Deadlay, Split, Wildland	1
230	0517663	NPSH Reel, Booster, DS, 2/3 H.P. Motor, Wildland	1
		Finish, Reel - Painted Gray	
231	0005280	Switches, Reel Rewind - (1) Each Pump Panel	1
232	0018394	Hose, Booster - 150' of 1.00"/800 PSI, 1" NPSH Coupling	1
233	0017858	Capacity, Hose Reel 150' of 1"	1
234	0007428	Nozzle for Booster Reel Not Req'd	1
235	0085328	Nozzle Cup, Zico w/Bracket	2
		Location - front body bulkheads	
		Qty, - 02	
		Size, Nozzle Cup - 4-5/8" I.D.	
236	0015260	Roller Assembly, Additional	1
		Location - on the top edge of the passenger side of the compartment to be constructed in the place where an auxiliary pump or second hose reel would be	
		Qty, - 1	
237	0592633	Foam Sys, Husky 3, Single Agent	1
		Discharge - both front 1.5" discharges, the driver and passenger side discharges under the deadlays, the rear discharge, and the hose reel	
		Amount of Disc. W/Foam - 6	
238	0012126	Not Required, CAF Compressor	1
239	0592527	Refill, Foam Tank, Integral, Husky 3	1
240	0031896	Demonstration, Foam System, Dealer Provided	1
241	0674712	SP Foam Cell, 30 Gallon	1
		Type of Foam - Class "A"	
		Foam, Brand Name - TBD	
242	0697589	Drain, 1.00", Foam Tank #1, Husky 3 Foam System	1
243	0091079	Not Required, Foam Tank #2	1
244	0091112	Not Required, Foam Tank Drain	1
245	0561199	Pump House, Side Control, 32.50", Wildland, PMFD	1
246	0035570	Pump Panel Configuration, No Match Required	1
247	0001181	No Additional Pressure Gauges Req'd., Skid Package	1
248	0005520	Panel, Pump and Gauge, Black Vinyl	1
249	0641747	Pump Access - Pass Side Only, w/Removable Compt, Wildland	1
250	0035501	Pump House Structure, Std Height	1
251	0530927	Light, Pump Compt, Wildland	1
252	0586382	Engine Indicators, Included With Pressure Controller	1
253	0588285	SP Throttle, Fire Research ThrottleXcel, ELA200-A00, PMFD	1
254	0035630	[No engine indicator light @ Pump Panel]	1
255	0566557	SP Enclosure, PS Bolt-in, 60" H x 20" W, Pump Panel, Treadplate, PMFD Wildland	1
256	0511078	Gauges, 4.0" Master, Class 1, 30"-0-600psi	1
257	0664838	Gauge, 2.0" Pressure, Class 1, 30"-0-400psi, Wildland 1906	1
258	0062992	Gauge, Foam Level, (1) Tank, Class 1	1
259	0593161	Light Shield, S/S LED	1

260	0520027	Panel Illumination, PS, PMFD Wildland	1
261	0510617	Air Horn, (1) Hadley, Mounted Behind Bumper	1
262	0036061	Control, Air Horn, DS Foot Sw, PS Push Button	1
263	0525667	Siren, Whelen 295SLSA1, 100 or 200 Watt	1
264	0065396	Location, Elect Siren, Under Dash, IHC,	1
265	0006145	Control, Elec Siren, Horn Ring, PS Foot Sw	1
266	0561882	Speaker, Whelen SA315P, 100 watt	1
		Qty, Speakers - 1	
		Connection, Speaker - siren head	
267	0548352	Location, Recessed in the Front Bumper, Driver Side	1
268	0678518	Lightbar, Whelen, Justice, LED, 4-R, 2-W, 2-SR, 4-RC, Wildland	1
269	0524929	Lights, Front Zone, Whelen LIN3 Super LED, Comm	1
270	0652325	SP Flasher, Headlight Alternating, Federal FHLP-CV	1
		Headlt flash deactivation - a)w/high beam	
271	0075702	Lights, Side Zone Lower, Whelen Super 500 LED, 2pr	1
		Location, lights rear - rear of axle, one on each side fender	
		Location, lights frt side - b)each side bumper	
		Color,Whln Sup500 LED,FRT - a) rd/rd	
		Color,Whln Sup500 LED,BCK - a) rd/rd	
272	0057245	Lights, Rear Zone Lower, Whelen SUPER 500 LED	1
		Color,Whln Sup500 LED - a) rd/rd	
273	0080676	Lights, Rear/Side Up Zone, Whelen Super 500 LED, 3pr	1
		Color,Whln Sup500 LED,BCK - a) rd/rd	
		Color,Whln Sup500 LED,UPR - a) rd/rd	
		Color,Whln Sup500 LED,LWR - a) rd/rd	
274	0006551	Not Required, Lights, Rear Upper Zone Blocking	1
275	0519934	Not Required, Brand, Hydraulic Tool System	1
276	0007150	Bag of Nuts and Bolts	1
		Qty, Bag Nuts and Bolts - 1	
277	0544715	Soft Suction Hose, Provided by Fire Department, Initial Attack Classification	1
278	0549170	Extinguisher, Dry Chemical, Not Required, NFPA 1906 2006 Apparatus	1
279	0548070	Extinguisher, 2.5 Gal, Not Required, NFPA 1906 2006 Apparatus	1
280	0586561	Chassis Cab Paint, Optional Color	1
		Paint Color, Pierce #20 white	
281	0583915	No Two-Tone Paint Req'd	1
282	0637165	SP Paint, Optional Color, #20 White, Commercial Grade Chassis Finish, Job #27356	1
		Paint Color, Commercial, Optional - #20 White	
283	0582663	Paint, Chassis Frame Assy, Black, by Commerical Chassis Mfgr	1
284	0651188	Paint, Wheels, By Chassis Manufacturer, Single Rear Axle, Commercial	1
285	0651181	Wheels, Silver Accent Stripe on Outer Edge, Single Axle	1
286	0530929	Compartment paint, Spatter Gray, Wildland	1
287	0544129	Reflective Band, 1"-6"-1"	1
		Color, Reflect Band - A - e) black	
		Color, Reflect Band - B - t) gold	
		Color, Reflect Band - C - za) black	
288	0007357	Reflective on Front Bumper	1
289	0544960	Stripe, Chevron, Rear, Not Required, NFPA 1906 or Non-NFPA Compliant Apparatus	1
290	0515348	Stripe, Black Outline, Scotchlite on Reflective Band	1
		Qty, - 1	
291	0065785	Stripe, Reflective, Cab Drs Interior, Commercial Cabs, 4dr	1
		Color, Reflective -	
292	0033179	Lettering Specifications, Reflective	1
293	0686159	Lettering, Reflective, 3.00", (41-60)	1

	Outline, Lettering - Outline	
294 0515269	Lettering, Reflective 2" Script w/outline	1
	Color, Lettering - e) black	
295 0041534	Emblem, (3) Letter Monogram Style with Lettering, Reflective, Denver, Each	2
	Qty, - 02	
	Location, Emblem - on the front cab doors	
	Color, Reflective - i) gold	
296 0666414	Emblem, Freedom Flag, Each	1
	Qty, - 01	
	Location, Emblem - R1	
	Size, Flag - 24" - 25"	
297 0509860	Manual on CD, Body Parts Only, Commercial Product	1
298 0509886	Manual on CD, Service, Comm	1
299 0002902	Manual, Commercial Chassis Operation	1
300 0080008	Warranty, Basic, 1 Year, Apparatus, Commr Chassis, WA0008	1
301 0681666	Warranty, Basic Vehicle, 1 yr, IHC 7400/7500/7600	1
302 0595282	Warranty, Cab Paint, As Provided By Chassis Manufacturer, Commercial	1
303 0647720	Warranty, Pierce LED Strip Lights, WA0203	1
304 0021516	Warranty, 5-Year EVS Transmission, Standard Comm, WA0187	1
305 0596025	Warranty, Structure, 10 Year, Body, WA0009	1
306 0693127	Warranty, Gortite, Roll-up Door, 6 Year, WA0190	1
307 0582368	Warranty, Pump, Darley, 6 Year Parts, 3 Year Labor, WA0179	1
308 0648675	Warranty, 10 Year S/S Pumbing, WA0035	1
309 0657990	Warranty, Foam System, Husky 3, WA0231	1
310 0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	1
311 0595412	Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	1
312 0544883	Certification, Cab Integrity, IHC, CD0025	1
313 0545073	Amp Draw Report, NFPA 2009 Edition	1
314 0002758	Amp Draw, NFPA Radio Allowance	1
315 0000017	FLORIDA DIVISION BODY	1
316 0000015	FLORIDA DIVISION COMMERCIAL CHASSIS	1
317 0004713	ENGINE, OTHER	1
318 0046395	EVS 3000 Series TRANSMISSION	1
319 0018574	DARLEY PUMP	1
320 0028048	FOAM SYSTEM	1
321 0020006	SIDE CONTROL	1
322 0020007	AKRON VALVES	1
323 0020909	ABS SYSTEMS, Commercial	1
324 0658751	Manufacturing Attribute	1



Electrical Analysis

12/19/2013

Bid #: 532

Sales Rep: Doucette, Duane

Desc: 27356 IHC 7400 Wildland

Organization: Front Range Fire Apparatus, Ltd

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0001285	Fuel Pump for Aux. Pump / Generator		0.00	6.00	0.00
0005937	Light, Do not move apparatus, Commercial		0.00	0.62	0.00
0036061	Control, Air Horn, DS Foot Sw, PS Push Button		0.00	0.83	0.00
0062992	Gauge, Foam Level, (1) Tank, Class 1		0.00	0.00	1.00
0505329	High Idle w/Electronic Engine, Wildland, PMFD		0.00	1.20	0.00
0505444	Lights, Hella Picador Model 90645 or H15522041		0.00	0.00	1.30
0506677	Lights, Backup, Truck-Lite Model 44206C, Round Grommet Mount,		0.00	0.25	0.00
0510713	Light, Engine Compt, Commercial Chassis		0.00	3.20	0.00
0512017	Primer, Waterous, VPO, Oil Free, (2) Push Buttons		0.00	260.00	0.00
0517663	NPSH Reel, Booster, DS, 2/3 H.P. Motor, Wildland		0.00	36.00	0.00
0527434	Lights, Below Alum Hose Bed Cover, Truck-Lite 19200C, Wildland		0.00	0.00	7.20
0530927	Light, Pump Compt, Wildland		0.00	1.80	0.00
0561628	Air Conditioning, International		0.00	3.00	0.00
0589760	Light, Whelen, 12V PFP1 Pioneer LED FloodIt, PBA103 Recessed 15		0.00	0.00	6.00
0589761	Light, Whelen, 12V PFP1 Pioneer LED FloodIt, PBA103 Recessed 15		0.00	0.00	6.00
0589768	Light, Whelen, 12V PFP1 Pioneer LED FloodIt, PBA103 Recessed 15		0.00	0.00	12.00
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0592633	Foam Sys, Husky 3, Single Agent		0.00	55.00	0.00
0652325	Flasher, Headlight Alternating, Federal FHLP-CV		0.00	0.08	0.00
0680737	Single Start, (3) Grp 31, 650 CCA each, 1950 CCA, IHC 7400 4x4		0.00	3.00	0.00
0548004	Wiring, Spare, 15 A 12V DC 1st	LM	0.00	0.00	30.00
0002758	Amp Draw, NFPA Radio Allowance	NFPA	5.00	0.00	0.00
0004528	Valve, Pump Relief w/ Indicator Lights,Darley	NFPA	0.52	0.00	0.00
0005926	Light, Open Door - Comm Std	NFPA	0.95	0.00	0.00
0020873	ABS, Bendix Anti-Lock Braking System, Commercial Chassis	NFPA	0.60	5.40	0.00
0024122	Air Dryer, Brake, AD-IP w/Heater, IHC/FLR/Kw/Pete	NFPA	4.70	0.00	0.00
0048785	D.S. Hawk, Short, Full ht., Short, 1 Lift up, Lap, Model 14	NFPA	2.70	0.00	2.70
0048788	P.S. Hawk, Short, Full ht., 1 Lift-up, Lap, Model 14	NFPA	2.70	0.00	2.70
0055984	Trans, Automatic, Allison 3000 EVS, w/(2) PTO Provisions, IHC	NFPA	2.00	2.00	0.00
0057245	Lights, Rear Zone Lower, Whelen SUPER 500 LED	NFPA	1.60	0.00	0.00
0062676	Gauge, Water Level, Class 1, Master W/ Mini Slave	NFPA	1.23	0.00	0.00
0072620	Wiper control, intermittent feature Commercial	NFPA	1.20	4.80	0.00
0072785	Cab Lighting, Commercial Chassis	NFPA	14.48	7.79	0.00
0075702	Lights, Side Zone Lower, Whelen Super 500 LED, 2pr	NFPA	1.60	2.40	0.00
0080676	Lights, Rear/Side Up Zone, Whelen Super 500 LED, 3pr	NFPA	1.14	0.00	0.00
0509494	Lights, Cab and Crew Cab Access Steps, P25, LED, 8 Lights	NFPA	0.28	0.28	0.00
0511749	Light, Step, Additional, P25 LED	NFPA	0.35	0.00	0.00
0520027	Panel Illumination, PS, PMFD Wildland	NFPA	1.63	0.00	3.17
0524929	Lights, Front Zone, Whelen LIN3 Super LED, Comm	NFPA	0.80	0.00	0.00
0525667	Siren, Whelen 295SLSA1, 100 or 200 Watt	NFPA	1.56	14.06	0.00
0538271	Lights, Perimeter Scene, Truck-Lite 6060C LED Grmt (4) Lts Pump	NFPA	1.00	0.00	0.00
0540516	Lights, Tail, Truck-Lite 4.00" Round Grommet Mount, LED lights	NFPA	0.50	1.50	0.00
0556360	Lights, Step, P25 LED 4lts	NFPA	1.00	0.00	0.00
0586382	Engine Indicators, Included With Pressure Controller	NFPA	0.30	0.00	0.00
0590908	Lights, Identification/Clearance, Rear, Truck-Lite, 33 LED	NFPA	0.25	0.25	0.50
0593161	Light Shield, S/S LED	NFPA	3.00	0.00	0.00
0664481	Bracket, License Plate & Light, P25 LED	NFPA	0.07	0.00	0.00
0678518	Lightbar, Whelen, Justice, LED, 4-R, 2-W, 2-SR, 4-RC, Wildland	NFPA	13.80	0.00	0.00
0682894	Engine, MaxxFoCe DT, 300 hp - IHC, 7400 4x4	NFPA	6.00	0.00	0.00
0686530	Cab, 4-door Crew Cab, IHC 7400 4x4	NFPA	25.32	7.48	24.75
0687604	Lights, Perimeter Scene Cab Exits, Truck-Lite 6060C, LED Grommet	NFPA	2.00	0.00	0.00

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Electrical Analysis

12/19/2013

Bid #: 532

Sales Rep: Doucette, Duane

Desc: 27356 IHC 7400 Wildland

Organization: Front Range Fire Apparatus, Ltd

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0070456	Alternator, 320 amp Leece-Neville, IHC	S	0.00	0.00	0.00
Load Totals:			98.28	417.44	97.32

Note: Minimum Continuous Load is in "Blocking Right of Way" mode.(Reference current edition of NFPA 1901)

Note: Intermittent Load items are not factored in on any alternator load comparisons. These items are included on the report for reference only and should be looked at as amp draw exclusion items. (Reference current edition of NFPA 1901)

Note: Total Connected Load "Demand" represents Total Connected Load minus any Load Managed items

Alternator Output at Idle: 155.00

Minimum Continuous Load	
Supply:	155.00
Demand:	98.28
Variance:	56.72

Alternator Output at Governed Speed: 250.00

Total Connected Load	
Supply:	250.00
Demand:	165.60
Variance:	84.40

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Your apparatus will be manufactured in Bradenton, Florida.

We are pleased to submit to you for a **Pierce® wildland fire apparatus** per your request for quotation. The following paragraphs will describe in detail the apparatus. It meets the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution, except where amended by your specifications. Loose equipment not specifically requested will not be provided.

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning. We currently have a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards that we demand. That is just part of our overall "Quality at the Source" program at Pierce.

DELIVERY

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty.

INFORMATION

At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

SAFETY VIDEO

At the time of delivery Pierce will also provide one (1) 39-minute, professionally-produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, and safety during maintenance.

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus will meet NFPA 1906 acceleration requirements and NFPA 1906 braking requirements. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle and not less than 50 percent nor more than 75 percent on the rear axle.

COMMERCIAL GENERAL LIABILITY INSURANCE

Certification of insurance coverage will be enclosed.

ISO COMPLIANCE

The manufacturer will operate a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that will be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance will be included with the bid.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



NFPA COMPLIANCY

Apparatus will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in the current edition at time of contract execution. Fire Department's specifications that differ from NFPA specifications will be indicated as "non-NFPA."

PUMP TEST

The rated water pump will be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results, along with the pump manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horsepower curve, and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

GENERATOR TEST

If the unit has a generator, the generator will be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results will be provided to the Fire Department at the time of delivery.

INSPECTION TRIP #1

An inspection trip will be provided for two (2) people. Trip will take place in Bradenton FL to review the construction of the unit.

BID BOND, NOT REQUESTED

A bid bond will not be included. If requested, the following will apply:

All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.

Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.

PERFORMANCE BOND, 1 YEAR

The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.

REFERENCE DRAWING

A drawing of the apparatus will be provided for review. This drawing will indicate the major components such as the chassis make and model, body configuration and door style, location of the lights, siren, horns, compartments, major components, etc.

This drawing will not need to be signed and returned to the apparatus manufacturer and will not be part of the contract documents.

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the body as it interfaces with the commercial chassis, will be provided.

CHASSIS

The chassis will be an International, WorkStar 7400 SFA, supplied with the following equipment:

WHEELBASE

The wheelbase of the vehicle will be 185".

GVW RATING

The gross vehicle weight rating will be 37,000 pounds.

FRAME

The frame rails will be formed from 120,000 psi yield, heat treated alloy steel.

FRAME LINER

An outer "C" channel frame liner constructed of heat treated alloy steel shall be provided.

FRONT AXLE

The front drive axle will be a Meritor, with a ground rating capacity of 14,000 lb.

TRANSFER CASE

The transfer case will be a Meritor two (2) speed with high and low range.

PTO provision will be included.

Electric over air shift controls will be provided.

FRONT SUSPENSION

Spring Mounted: Eight (8)-Leaf, 54.00" x 4.00"

Capacity at ground [two (2) springs]: 14,000 lb.

Shock Absorbers: Double Acting

Shock absorbers will be provided on the front axle.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



TIRES, FRONT, 4X4

Front tires will be Goodyear, 22.50, radial tires with a traction tread pattern suitable for the steering axle position on an all-wheel-drive vehicle. The tire capacity will meet or exceed the capacity of the axle and/or suspension.

Due to ratio matching requirements of an all-wheel-drive vehicle, the front and rear tire sizes will be the same. The size of the tires provided will be at least the minimum size required to meet the GAWR rating of both axles.

WHEELS, FRONT

Wheels for the front axle will be 22.50" steel disc, ten (10)-hole pattern properly sized for the provided tires.

REAR AXLE

The rear axle will be a Dana Spicer, model S23-190, with a ground rating capacity of 23,000 lb. The brake chambers will be forward mounted and brakes will be 16.50" x 7.00", S-Cam type.

PARKING BRAKE

The parking brake will be spring set and located on the rear axle service brake.

REAR AXLE RATIO

The ratio of the rear axle will be provided by the chassis manufacturer. The maximum top speed will be 70 to 73 MPH

REAR SUSPENSION

The rear suspension shall be Vari-Rate multi-leaf spring suspension with a capacity at ground of 23,500 lbs.

Auxiliary rubber spring suspension with a capacity of 4500 lbs. will be included.

SYNTHETIC GEAR LUBE - REAR AXLE

The rear axle differential will be supplied with a synthetic gear lube recommended by the axle manufacturer.

DUST SHIELDS

The front and rear brakes will be provided with dust shields.

TIRES, REAR, 4X4

Rear tires will be Goodyear, 22.50, radial tires with a traction tread pattern suitable for the rear axle position on an all-wheel-drive vehicle. The tire capacity will meet or exceed the capacity of the axle and/or suspension.

Due to ratio matching requirements of an all-wheel-drive vehicle, the front and rear tire sizes will be the same. The size of the tires provided will be at least the minimum size required to meet the GAWR rating of both axles.

WHEELS, REAR

The rear wheels will be 22.50" steel disc with a ten (10)-hole pattern properly sized for the provided tires.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



TIRE PRESSURE MANAGEMENT

There will be a VECSAFE LED tire alert pressure management system provided that will monitor each tire's pressure. A chrome plated brass sensor will be provided on the valve stem of each tire for a total of 10 tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 20 and 120 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops eight (8) psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start blinking.

ANTI-LOCK BRAKE SYSTEM

The vehicle will be equipped with an anti-lock braking system. The ABS will provide anti-lock braking control on both the front and rear wheels. It is to be a digitally controlled system that utilizes microprocessor technology to control the anti-lock braking system. Each wheel is to be monitored by the system. When any particular wheel begins to lockup, a signal is to be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.

FRONT BRAKES

The front brakes will be S-Cam, 16.50" x 5.00".

AIR COMPRESSOR, BRAKE SYSTEM

The air compressor will be a Bendix TU-FLO 550 with 13.20 cubic feet per minute output.

AIR DRYER

A Bendix AD-IP air dryer with a heater will be provided.

AIR INLET

A single air inlet with male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located in the driver side lower step well of cab. A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female coupling will also be provided with the loose equipment.

ENGINE

- Model: MaxxForce DT Series
- Number of Cylinders: Six (6)
- Bore and Stroke: 4.59" x 4.68"
- Displacement: 570 cubic inches
- Compression Ratio: 16.45:1
- Rated Brake Horsepower: 300 at 2200 rpm
- Peak Torque: 860 at 1300 rpm
- Governed rpm: 2400
- Turbocharger
- Charge Air Cooled
- Combustion System: Direct injection, electronically controlled



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



ENGINE ACCESSORIES

- Fan Clutch: Horton 2-speed Drive Master with nylon fan
- Air Cleaner: Dry type, with restriction indicator in cab
- Fuel Filters: Dual, with check valve
- Governor: Limiting speed type
- Lube Oil Cooler
- Lube Oil Filter: Full flow
- Starting Motor: 12-volt
- Oil Fill and Level Gauge
- Hand Operated, Reprime Pump

ENGINE WARRANTY

The engine will come with a **five (5) year** warranty provided by the engine manufacturer.

RADIATOR

- Pressurized System, Tube, and Fin
- Deaeration Tank and Sight Glass
- Anti-Freeze Protection to -40 Degrees Fahrenheit.

HIGH IDLE

A hi-idle switch will be provided on the center in cab console or instrument panel. It will be labeled "OK to Engage High Idle". A green indicator light will be provided adjacent to the switch. The light will illuminate only when the transmission is in neutral and the parking brake is set. The switch will be capable of increasing the engine speed to 1000 RPM. Safety interlocks are required to drop the engine RPM to idle when placing the transmission in gear or when shifting into pump mode.

The cruise control feature of the apparatus will not be disabled to achieve the hi-idle function.

ENGINE BRAKE

The International electronically activated engine compression will be installed with the control located on the instrument panel within easy reach of the driver.

ENGINE HEATER

A 120-volt, 1250 watt engine block heater shall be provided.

AIR INTAKE, w/EMBER SEPARATOR

The air inlet will be equipped with a stainless steel mesh to separate water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

This will comply with NFPA 1901 and 1906 standards.

EXHAUST SYSTEM

The exhaust system will include a diesel particulate filter and a diesel oxidation catalyst to meet current EPA standards located on the driver side of the frame under cab. The exhaust will route to a horizontal tailpipe and diffuser ahead of the passenger side rear wheels.

EXHAUST MODIFICATIONS

The exhaust will terminate the side of the body with a horizontal tailpipe and diffuser ahead of the passenger side rear wheels.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



A heat deflector shield will be provided where the tail pipe is routed under any side compartmentation.

COOLANT LINES

Premium rubber hose will be used for all engine coolant lines installed by Pierce Manufacturing. Hose clamps will be the constant torque type to prevent coolant leakage. They will expand and contract according to coolant system temperature thereby keeping a constant clamping pressure on the hose.

FUEL TANK

A 50 gallon fuel tank will be provided and mounted at the left side (driver's) cab step. The tank will be constructed of welded aluminum.

AUXILIARY FUEL PUMP

An auxiliary electric fuel pump with a pick up tube will be added to fuel tank. The pump and pick up will be for the supply of fuel to a generator or auxiliary pump. The tube will not be able to draw the fuel tank down to less than 12 gallons remaining fuel capacity in the tank, to assure that the auxiliary engine cannot exhaust the fuel supply of the vehicle.

FUEL LINES PROTECTION

The synflex fuel hoses that run from the chassis fuel tank to the fuel pump will be wrapped with "Storm King Mountain" fire wrap lagging.

TRANSMISSION

An Allison, model 3000 EVS, electronic torque converting automatic transmission will be provided. Synthetic transmission fluid will be provided as required by the EVS rating of the transmission.

Two (2) PTO openings will be located at positions of 8 o'clock and 4 o'clock. In some configurations certain other components may block access to an available position.

A transmission temperature gauge or warning light will be installed on cab instrument panel.

TRANSMISSION SHIFT CONTROL

A push button shift module will be mounted to right of driver. Shift position indicator will be indirectly lit for after dark operation.

The transmission will be a five (5)-speed. The transmission ratio's will be 1st - 3.49 to 1.00, 2nd - 1.86 to 1.00, 3rd - 1.41 to 1.00, 4th - 1.00 to 1.00, 5th - 0.75 to 1.00, R - 5.03 to 1.00.

TRANSMISSION COOLER

A transmission oil cooler will be provided in the lower tank of the radiator.

DRIVELINE

Drivelines will have a heavy duty metal tube that is properly sized for the intended application. The shafts will have a splined slip joint.

STEERING

Steering shall consist of a hydraulically driven power steering system with a capacity designed for the axle rating.

For additional comfort, the steering wheel column shall have a tilt feature.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



SKID PLATE

A .125" removable steel skid plate will be fastened to the bottom side of the fuel tank hangers.

BUMPER

A one (1)-piece, 10.00" high, stainless steel bumper will be attached to the front of the frame. A 9.00" channel will be mounted directly behind the bumper for additional strength. The bumper will be extended 19.00" from the front face of the cab.

GRAVEL PAN

A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.

TOW HOOKS

Two (2) chromed steel tow hooks will be installed under the bumper and attached to the front frame members. The tow hooks will be designed and positioned to allow up to a 6,000 pound straight horizontal pull in line with the centerline of the vehicle. The tow hooks will not be used for lifting of the apparatus.

BUMPER HOSE RESTRAINT

There will be two (2) hose tray restraint straps located passenger and driver's side. The restraints will be a pair of 2.00" wide black nylon straps with Velcro fasteners provided. The strap(s) will be used to secure the hose in the tray.

HOSE TRAY (left side)

A hose tray will be placed in the left side of the extended bumper. The tray will have a capacity of 50' of 1.50" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes will also be provided.

HOSE TRAY (right side)

A hose tray will be placed in the right side of the extended bumper. The tray will have a capacity of 50' of 1.50" double jacket cotton-polyester hose. Black rubber grating will be provided at the bottom of the tray. Drain holes will be provided.

CAB

Type: Four (4) Door, Conventional (engine forward)

Construction: Welded Steel and Fiberglass

Accessories:

- Tinted Glass in all Windows
- Black Rubber Floor Mats
- Dual Sun-Visors
- 18.00" Cab Entrance Handrails - 1.28" diameter extruded aluminum with rubber inserts one (1) each side
- Dome Light with Map Light
- Fresh Air Heater and Defroster
- Fiberglass Front End, Three (3) Piece Construction
- Composite Aero Design Halogen Headlights
- Air Ride Cab Suspension



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



CAB INTERIOR, IHC, GRAY

Gray Vinyl Upholstery

CAB GRILLE - STATIONARY

The cab grille will be a chrome plated high impact plastic with a vertical channel design, and will include chrome headlight bezels. The grille will be attached to the radiator core support structure and will not tilt with the hood.

MIRRORS

Lang Mekra 15.75" x 7.00" flat rear view with integral convex mirrors will be provided. The mirror housings will have a bright finish with integral LED clearance lights and breakaway type brackets. Both sides will be remote controlled with thermostatically controlled heated glass.

CAB ACCESS STEPS

The front cab steps provided by the chassis manufacturer will be covered with bright aluminum treadplate trim and punched edge grip design and will match the rear door steps.

COMPARTMENT, STORAGE

A double-door storage compartment will be provided below the left side crew cab door. The approximate dimensions of this compartment will be 42.00" wide x 17.00" high x 22.00" deep, and will extend to the side of the running board. Both doors will be double pan construction with a D-ring latch and vertical hinges with no center post. Compartment exterior will be aluminum treadplate.

The exterior of this compartment will serve as an entrance step to the crew cab. The steps will utilize edge punched aluminum material and will meet all NFPA step height requirements.

COMPARTMENT, STORAGE

A storage compartment will be provided under the passenger's side of cab in the step area. An aluminum treadplate double-door will be provided on the compartment. Both doors will be double pan construction with a D-ring latch and vertical hinges.

STEP LIGHTS

There will be eight (8) white LED step lights provided. There will be two (2) lights installed at each cab and crew cab door, one (1) light per doorstep.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights will be activated when the adjacent door is opened.

EMBER SEPARATOR, HVAC AIR INLETS

The air inlets for the heating and air conditioning system will be equipped with a stainless steel mesh to separate burning embers from the air intake system. The separator will be designed so that particulate matter larger than .039" (1.0mm) in diameter cannot get through.

WINDOW, BLANK PANEL

The back wall rear cab window will be removed and replaced with an aluminum tread plate panel. The smooth side will be painted 600T gray to match the cab interior color.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



AIR CONDITIONING

International Blend-Air with integral heater and defroster will be provided.

The system will deliver a 12,000 BTU/hour in the air conditioning mode when tested per SAE J1484 with inlet air conditions of 80 degrees Fahrenheit dry bulb and 67 degrees Fahrenheit wet bulb.

The system includes Hydro Fluorocarbon HFC-134A refrigerant.

ENGINE COMPARTMENT LIGHT

An engine compartment light with an integral switch will be installed under the engine hood.

STORAGE CONSOLE

There will be a console located between the front seats, with room for radios and map storage. There will be an area approximately 8.50" x 21.75" for radios. There will be four sections for map storage. Each section will be approximately 5.00" wide x 13.00" long x 12.25" deep. The console will be constructed of smooth aluminum and painted black.

SEATING CAPACITY

The seating capacity in the cab will be five (5).

SEATING

Seating inside the cab will consist of an air-ride driver seat and an air-ride officer seat.

SEATING (crew cab)

Two (2) individual, National 2000 non-suspension, high back non-SCBA style seats shall be provided - one in each outside seating position.

SEAT BELT WEB LENGTH

The chassis seat belt web length as supplied by the commercial chassis manufacturer will be compliant to NFPA 14.1.3.2 and 14.1.3.3.

SEAT BELTS

All seating positions in the cab and crew cab will have red seat belts.

SEAT BELT MONITORING SYSTEM

A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows:

- Seat Occupied Buckled Green
- Seat Occupied Unbuckled Red
- No Occupant Buckled Red
- No Occupant Unbuckled Not Illuminated

Alarm:

The SBMS will include an audible alarm that will be activated when a red illumination condition exists and the parking brake is released, or a red illumination condition exists and the transmission is not in park.

HELMET STORAGE, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, section 14.1.8.4.1 requires a location for helmet storage be provided.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB INSTRUMENTS

- Engine Temperature Gauge and Warning Buzzer
- Engine Oil Pressure Gauge and Warning Buzzer
- Speedometer with Odometer
- Engine Tachometer
- Engine Hourmeter
- Fuel Level Gauge
- DEF Level Gauge and Warning Lamp with 2010+ engines
- Voltmeter: Low voltage red warning light and audible alarm
- Air Brake Pressure Gauge
- Air Restriction Indicator
- Circuit Breakers: For overload protection of electric circuits
- Ignition Switch: Keyless type

EMERGENCY SWITCH PANEL

An emergency switch panel will be provided in the cab.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light (located in the driving compartment) will be illuminated automatically per the current edition of NFPA. The light will be labeled "Do Not Move Apparatus If Light Is On".

The same circuit that activates the Do Not Move Apparatus indicator will not activate any alarm when the parking brake is released.

OPEN DOOR INDICATOR LIGHT

A red "open door" indicator light will be provided inside the cab, in clear view of the driver, to warn of an open compartment door.

WIPER CONTROL

Wiper control will include an intermittent feature and windshield washer controls.

SPARE CIRCUIT

There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires will have the following features:

- The positive wire will be connected directly to the battery power.
- The negative wire will be connected to ground.
- Wires will be protected to 15 amps at 12 volts DC.
- Power and ground will terminate two (2) on the front of the console.
- Termination will be with 15amp, power point plug with rubber cover.

Wires will be sized to 125 percent of the protection.

The circuit(s) may be load managed when the parking brake is set.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



VEHICLE DATA RECORDER

A vehicle data recorder (VDR) will be provided. The VDR will be capable of reading and storing vehicle information. The VDR will be capable of operating in a voltage range from 8VDC to 16VDC. The VDR will not interfere with, suspend, or delay any communications that may exist on the CAN data link during the power up, initialization, runtime, or power down sequence. The VDR will continue operation upon termination of power or at voltages below 8VDC for a minimum of 10ms.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A CD provided with the apparatus will include the programming to download the information from the VDR. A USB cable can be used to connect the VDR to a laptop to retrieve required information.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

Vehicle Speed - MPH

Acceleration - MPH/sec

Deceleration - MPH/sec

Engine Speed - RPM

Engine Throttle Position - % of Full Throttle

ABS Event - On/Off

Seat Occupied Status - Yes/No by Position (1-6 Seating Capacity)

Seat Belt Buckled Status - Yes/No by Position (1-6 Seating Capacity)

Master Optical Warning Device Switch - On/Off

Time - 24 Hour Time

Date - Year/Month/Day

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run in loom or conduit where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids. Electrical wiring and equipment will be installed utilizing the following guidelines:

(1) All holes made in the roof will be caulked with silicon. Rope caulk is not acceptable. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.

(2) Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.

(3) Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



(4) Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).

(5) All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area.

(6) All electrical terminals in exposed areas will have silicon (1890) applied completely over the metal portion of the terminal. All emergency light switches will be mounted on a separate panel installed in the cab. A master warning light switch and individual switches to be provided to allow pre-selection of emergency lights. The light switches will be "rocker" type with an internal indicator light to show when the switch is energized. All switches will be properly identified and mounted in a removable panel for ease in servicing. Identification of the switches will be done by either printing or etching on the switch panel. The switches and identification will be illuminated.

All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

SOLID STATE CONTROL SYSTEM

A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.

Electrical System Controller (ESC)

The heart of the multiplex system is the Electrical System Controller (ESC). The ESC communicates with the switch packs on the switch data link, controllers from other features on the power train data link and remote power modules on the body builder data link. It also receives input from various sensors and hard wire inputs throughout the truck. The ESC converts these inputs, in accordance with the programmed "rules", into data to be transmitted on the data links. It is also the power source for circuits that feed the components, controlled by the multiplexed switches, inside and outside of the cab. The primary vehicle software programming resides in the Electrical System Controller (ESC).

Remote Power Module (RPM)

Remote Power Modules provide a method of distributing and controlling power to various device loads on the vehicle, outside the cab, without running high current wires from in-cab switches to the loads or splicing into existing wiring.

The RPM is connected to the Electrical System Controller (ESC) via the Body Builder 1939 data link. The only wires connected to the RPM are battery power for driving the loads, the data link cable and connections to the load devices being operated by the RPM. Power is fed to the RPM through a fusible link to the battery source.

Each RPM has six (6) independently controllable, 20 amp outputs (80 maximum per RPM) with virtual (software programmable) fusing similar to the ESC. If higher current capacity is needed,



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



two (2) outputs can be paralleled or the RPM can control a high current relay while still maintaining logic and diagnostic capability without having to wire to the inside of the cab.

BATTERY SYSTEM

A single starting battery system will be provided consisting of three (3) 12 volt, 650 CCA, maintenance-free, group 31 batteries.

The batteries system will have a total of 1950 CCA with a minimum reserve capacity of 540 minutes.

The batteries will be located below the passenger side cab door, above the air tanks.

MASTER BATTERY SWITCH

A master battery switch, to activate the battery system, will be provided inside the cab within easy reach of the driver.

The master battery disconnect switch will be wired between the starter solenoid and the remainder of the electrical loads on the apparatus.

A green "battery on" indicator light, visible from the driver's position, will be provided.

BATTERY CHARGER

There will be a Kussmaul 1200, Model 091-187-12-Remote battery charger provided. A bar graph display indicating the state of charge will be provided.

The charger will have a maximum output of 40 amps and a fully automatic regulation.

The battery charger will be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.

BATTERY CHARGER LOCATION

The battery charger will be located in the left body compartment, adjacent to the battery compartment, mounted high on the rear wall D2, high as possible, mounted horizontally.

The battery charger indicator will be located on the driver's seat riser.

KUSSMAUL AUTO EJECT FOR SHORELINE

An auto eject shoreline will be provided to operate the dedicated 120-volt circuits on the truck without the use of a generator.

It will be provided with a NEMA 5-15, 120 volt, 15amp, straight blade Kussmaul auto eject plug and a yellow weatherproof cover. The cover is spring loaded to close, preventing water from entering when the shoreline is not connected.

A solenoid wired to the vehicle's starter is energized when the engine is started. This instantaneously drives the plug from the receptacle.

The shoreline will be connected to battery charger.

A mating connector body will also be supplied with the loose equipment.

The shoreline receptacle will be located on the driver side rear bulkhead.

ALTERNATOR

The alternator will be a 12V, 320 Amp, Leece Neville pad mount alternator.

Load Management

A load management system will be included with the Diamond Logic MUX system on this chassis. The load management feature of the Diamond Logic Builder program will provide a



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



means to shut off remote power module loads based upon low battery voltage or other logic driven events (single or multiple events as needed). The software-driven function will eliminate the costs of third party after market modules, all associated relays and the wiring that must otherwise be added by the apparatus body builder.

EXTERIOR LIGHTING

Exterior lighting will meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at this time.

Front headlights will be halogen type and comply with all FMVSS requirements.

Five (5) clearance/marker lights will be installed across the leading edge of the cab.

REAR ID/MARKER DOT LIGHTING

The three (3) identification lights located at the rear will be installed per the following:

Truck-Lite, Model 33 LED lights.

As close as practical to the vertical centerline.

Centers spaced not less than six (6) inches or more than twelve (12) inches apart.

Red in color.

All at the same height.

The four (4) clearance lights located at the rear will be installed per the following:

Two (2) red Truck-Lite model 33 LED lights, located as high and as close to the outside as possible facing the rear.

Two (2) red Truck-Lite model 33 LED lights, located as far to the rear as practical facing the side.

To indicate the overall width of the vehicle.

All at the same height.

As near the top as practical.

To be visible from the rear and the side.

Two (2) red reflex reflectors will be located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15", but no more than 60", above the ground.

Two (2) red reflex reflectors will be located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15", but no more than 60", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

REAR FMVSS LIGHTING

The rear stop/tail/directional lights will be Truck-Lite 4.00" round, light emitting diode (LED) lamp kits. Each lamp kit will include a lamp, a rubber grommet and a connector plug.

The following light kits will be provided:

- Two (2) Truck-Lite, Model 44002R, red stop/tail light assemblies.
- Two (2) Truck-Lite, Model 44001Y, amber directional light assemblies.

The lights will be mounted on the rear face of the rear fender compartment by the use of the rubber grommet.

Four (4) red reflectors will be provided.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Two (2) Truck-Lite, Model 44206C, LED backup lamp kits will be provided. Each lamp kit will include a white, back-up light and rubber grommet mount.

LICENSE PLATE BRACKET

There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A polished stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There will be four (4) Truck-lite, Model 6060C, white LED lights with grommets provided, one (1) for each cab and crew cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PERIMETER SCENE LIGHTS, BODY

There will be four (4) Truck-Lite, Model 6060C LED lights with rubber grommets provided on the apparatus as perimeter scene lights.

- Two (2) lights will be under the rear step, one (1) each side.
- Two (2) lights will be under the pump panel running boards, one (1) each side.

Each light will be activated by a switch in the cab and at the pump panel.

STEP LIGHTS

Four (4) white LED, step lights will be provided. One (1) step light will be provided on each side, on the front compartment face and two (2) step lights at the rear to illuminate the tailboard. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

These step lights will be actuated with the pump panel light switch.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

ADDITIONAL STEP LIGHT

Additional lighting will be provided by white LED step lights. The step lights will be installed Lighting for rear steps. The quantity of additional step lights will be five (5) lights.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The additional step lights will be activated by the same means as the standard step lights.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



12 VOLT LIGHTING

There will be one (1) Whelen Model PFP1, 12 volt LED floodlight(s) installed in semi-recessed housing(s) Model PBA103 located at the front of the body on the driver side at the same height as the upper warning light.

The painted parts of this light assembly to be white.

The light(s) selected above will be controlled by the following:

a switch at the driver's side switch panel

no additional switch location

no additional switch location

no additional switch location

These light(s) may be load managed when the parking brake is set

12 VOLT LIGHTING

There will be two (2) Whelen Model PFP1, 12 volt LED floodlight(s) installed in semi-recessed housing(s) Model PBA103 located one each side in the upper part of the rear bulkhead.

The painted parts of this light assembly to be white.

The light(s) selected above will be controlled by the following:

a switch at the driver's side switch panel

no additional switch location

no additional switch location

no additional switch location

These light(s) may be load managed when the parking brake is set

12 VOLT LIGHTING

There will be one (1) Whelen Model PFP1, 12 volt LED floodlight(s) installed in semi-recessed housing(s) Model PBA103 located at the front of the body on the passenger side at the same height as the upper warning light.

The painted parts of this light assembly to be white.

The light(s) selected above will be controlled by the following:

a switch at the driver's side switch panel

no additional switch location

no additional switch location

no additional switch location

These light(s) may be load managed when the parking brake is set

WORK LIGHTS

The apparatus will be equipped with Hella Picador Model 90645 or H15522041 (or equal) 55 watt halogen work lights with swivel brackets. A quantity of one (1) light will be required. The lights will be located mounted centered on the front of the hose bed cargo area.

The lights will be individually controlled by, from the first switch feature, a control at the driver side switch panel, for the left light, from the second switch feature, a control at the pump panel for the center light and from the third switch feature, there is no control of this option for the right side mounted light.

WATER TANK

Booster tank will have a capacity of 500 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Tank will be T-shaped to provide for deep side compartments and to serve as a large sump to limit the amount of undraftable water.

Tank joints and seams will be nitrogen welded inside and out.

Tank will be baffled in accordance with applicable NFPA for the type of truck being constructed. Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions will interlock and will be welded to the tank sides.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 12.00" long. The fill tower will be located on the driver's side.

Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately four inches down the fill tower and extend through the water tank and dump to the rear of the rear axle.

Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.

Tank top will be sufficiently supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. A minimum of two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that is 8.00" long x 8.00" wide x 6.00" deep will be provided at the bottom of the water tank.

Sump will include a drain plug and the tank outlet.

Tank will be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel flat bar or rectangular tubing.

Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on. Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.

The mounting system used by Pierce Manufacturing has been approved by United Plastic Fabricating, Incorporated.

WATER TANK WARRANTY

Tank will have a **lifetime** warranty.

TANK FILL

A 2.00" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

WATER LEVEL GAUGE

An electronic master water level gauge will be provided on the operator's panel and a mini level gauge will be located in the cab. Water levels will be indicated by means of five (5) durable,



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



ultra-bright five LED lights. The master level gauge will have a lens design that will be viewable through 180 degrees. The water level indicators will be as follows:

- 100% = Green
- 75% = Yellow
- 50% = Yellow
- 25% = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the water tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank. The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from water and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display measures head pressure to accurately show the tank level. It will be designed to be calibrated in the field.

REAR BUMPER / TAILBOARD

The rear bumper / tailboard will be constructed with a steel frame work covered with bright aluminum treadplate.

The tailboard will full body width X 10.00" deep. The rear departure angle will be no less than the required NFPA 1906 minimum.

A drop step will be provided between the frame rails.

All steps will meet NFPA step requirements.

One (1) sleeve will be provided in the water tank for plumbing to the rear.

WATER TANK RESTRAINT

A heavy-duty water tank restraint will be provided.

DIRECT TANK FILL

There will be one (1) - 2.50" gated external tank fill(s) installed and properly labeled at the rear of the water tank, located driver's side, with the valve installed as low as practical for easy hose connection.

Piping, for the fill, will be routed through the rear wall of the tank and include a flow deflector to break up the stream of water entering the water tank.

A 2.50" full flow ball valve with 2.50" piping and a 2.50" (F)NST chrome swivel will be located at the inlet.

A 2.50" chrome plated 30 degree elbow and plug with VLH automatic pressure relieving thread technology will be provided for the tank fill.

HOSE BED

Two main hose storage areas will be provided - one on each side of the ladder/hard suction hose storage area. The location of the water and/or foam tank dome(s) will diminish the amount of space available.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of .50" x 4.50" with spacing between slats for hose ventilation.

HOSEBED CAPACITY

The hosebed will be of a fixed design and capacity and will accommodate a typical wildland truck rolled or flat hose storage requirements.

HOSEBED DIVIDER

Two (2) adjustable hosebed dividers will be furnished for separating hose.

Each divider will be constructed of a .25" brushed aluminum sheet. Flat surfaces will be sanded for uniform appearance, or constructed of brushed aluminum.

Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening bolts, at each end.

Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

LIGHTS, BELOW HOSE BED COVER

Additional hosebed lighting will be provided below the aluminum hosebed covers. A total quantity of not less than four (4) Truck-Lite model 19200C lights will be provided. The lights will automatically illuminate when the covers are opened.

HOSE BED ACCESS DOOR/S

There will be one (1) aluminum treadplate door/s, within the hosebed cover over water fill tower.

HOSE BED COVER

Two (2) separate aluminum treadplate hose bed covers will be provided. The covers will be hinged on the outboard side using a full length stainless steel hinge.

The covers will be reinforced so that they will support the weight of a person walking on the cover and will also be sloped to the outboard side of the apparatus to aid in water run-off.

The hose bed covers will have handrails installed along the rear lip and two (2) grab handles mounted on the top side of the covers.

Gas shocks will aid in opening the covers and keeping them in the upright position. A safety strap to keep the covers from traveling over center will be provided.

HOSEBED END FLAP

A pair of black vinyl flaps will be installed on the rear, one for each of the aluminum treadplate hose bed covers.

Each vinyl flap will have (2) nylon tie down straps, with seat belt buckles.

RUNNING BOARDS

Running boards will be fabricated of .125" bright aluminum treadplate.

Each running board will be supported by a welded 2.00" square tubing and channel assembly, which will be bolted to the pump compartment substructure.

Running boards will be 12.75" deep and spaced .50" away from the pump panel.

A splashguard will be provided above the running board treadplate.

TOW EYES (Rear)

Two (2) tow eyes will be installed below the rear tailboard compartment.

The tow eyes will be properly reinforced so that the truck can be pulled from the eyes.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



COMPARTMENT, REAR

A double door compartment will be provided at the rear of the body ahead of the tailboard. The interior dimensions of this compartment will be approximately 36.00" high x 39.50" wide x 22.88" deep.

A louvered, access panel will be furnished on the back wall of the compartment.

The clear door opening of this compartment will be 34.50" wide x 32.25 high.

Each of the vertically hinged compartment doors will be provided with a positive door holder.

RUNNING BOARD / TAILBOARD EDGE TREATMENT

The side running board and rear tailboard will incorporate a punching design to create an aggressive tread at the outside edge of the running board and tailboard.

COMPARTMENTATION

Body and compartments will be fabricated of galvanized steel.

Side compartments will be an integral assembly with the rear fenders.

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

Compartment flooring will be 12-gauge and of the sweep out design, with the floor higher than the compartment door lip.

The compartment door opening will be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.

Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate, or polished stainless steel.

Front facing compartment walls will be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

The support system will include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles will be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame will be mounted on the top of these supports to create a floating substructure which will result in a 400 lb. equipment support rating per lower compartment.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

Isolators will have a broad load range, proven viability in vehicular applications, be of a failsafe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of NFPA.

LOUVERS

All body compartments will have a minimum of one (1) set of louvers stamped into a wall to provide the proper airflow inside the compartment and to prevent water from dripping into the compartment. These louvers will be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN

Body structural analysis will be fully tested. Proven engineering and test techniques such as finite element analysis, stress coating and strain gauging have been performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.

A similar body design will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
- Driving the vehicle at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of actual testing techniques will be made available upon request.

COMPARTMENTATION, DRIVER'S SIDE

A horizontally hinged, single lift-up door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.63" wide x 36.88" high x 12.00" deep. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 59.50" wide x 32.25" high.

The lift-up door will be furnished with two (2) gas-charged cylinders to assist in the opening of the door and to maintain the door in an open position. There will be a field adjustable, three-position bracket mounted on the vertical side door opening that will allow the door to be held open at 87°, 90°, or 93°.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism.

A full height, vertically hinged, single door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 27.75" wide x 55.63" high x 25.88" deep in the lower 25.75" of the compartment and 12.00" deep in the remaining upper portion. The depth of the compartment will be calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 26.00" wide x 51.00" high. A positive door holder will be furnished with this compartment.

COMPARTMENTATION, PASSENGER'S SIDE

A horizontally hinged, single lift-up door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.63" wide x 36.88" high x 12.00" deep.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 59.50" wide x 32.25" high.

The lift-up door will be furnished with two (2) gas-charged cylinders to assist in the opening of the door and to maintain the door in an open position. There will be a field adjustable, three-position bracket mounted on the vertical side door opening that will allow the door to be held open at 87°, 90°, or 93°.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism.

A full height, vertically hinged, single door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 27.75" wide x 55.63" high x 25.88" deep in the lower 25.75" of the compartment and 12.00" deep in the remaining upper portion. The depth of the compartment will be calculated with the compartment door closed.

The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 26.00" wide x 51.00" high.

A positive door holder will be furnished with this compartment.

DOORS, SIDE COMPARTMENT

All hinged body compartment doors will be fabricated of .125", 5052-H32 aluminum with a tensile strength range of 31,000 to 38,000 psi. They will be lap style with double pan construction.

Doors will be a minimum of 1.50" thick with a full interior panel. To provide additional door strength, a "C" section reinforcement will be installed between the outer and interior panels.

Doors will be provided with a closed cell rubber gasket around the surface that laps onto the body. A second heavy-duty automotive rubber molding with a hollow core will be installed on the door framing that seals onto the interior pan, to ensure a weather resisting compartment.

All compartment doors will have a stainless steel continuous hinge that is bolted or screwed on with stainless steel fasteners.

All door lock mechanisms will be fully enclosed within the door panels to prevent fouling of the lock in the event equipment inside shifts into the lock area.

Doors will be latched with recessed, polished stainless steel "D" ring handles and Eberhard 106 locks.

To prevent corrosion caused by dissimilar metals, compartment door handles will not be attached to outer door panel with screws. A rubber gasket will be provided between the "D" ring handle and the door.

KEYED LOCK(S)

There will be nine (9) compartment doors furnished with a keyed lock. The compartmentation to have a keyed lock will be compartments D-1, D-2, P-1, P-2, P-3, R-1, ladder storage compartment, and the compartments under the crew cab.

PULL STRAP, DOORS

The two (2) compartment doors, located both over the wheel lift-up compartments, will be provided with pull straps.

COMPARTMENT LIGHTING

There will be eight (8) compartments with Pierce LED compartment light strips. The strips will be centered vertically along each side of the door framing. The compartments with these strip



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



lights will be located compartments D1, D2, P1, P2, P3, compartments under the crew cab on DS & PS sides, and R1.

Any remaining compartments will include 6.00" diameter Truck-Lite, Model: 79384 light in each enclosed compartment. Each light will have a number 1076 one filament, two wire bulb. Opening the compartment door will automatically turn the compartment lighting on.

MOUNTING TRACKS

There will be five (5) sets of tracks for mounting shelf(s) in D-1, D-2, P-1, P-2, and R-1 (Customer wants this option). These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be painted to match the compartment interior.

ADDITIONAL COMPARTMENT STORAGE

A hatch style compartment for additional storage will be provided above the high side body compartments on the each side of the truck.

The area above the left and right side vertical and horizontal compartments will be enclosed creating two (2) separate compartments approximately 11.00" high x 14.00" wide x the length of the body long. Both compartments will be a part of the main body structure while also utilizing the hose bed outboard wall as part of the construction and to separate the hose bed from these compartments. The apparatus hose bed covers will hinge on the outboard side of these compartments and double as the compartment lid.

The compartments will be constructed to prevent dust and moisture from entering the inside. There will also be drain holes in the bottom portion of the compartment to remove any excess moisture.

The interior of these compartments will be painted to match the exterior body color. A removable 1/8" aluminum panel will be installed on the interior outboard wall of each compartment to eliminate damage to the exterior body from shifting items that are stored within. This panel will not be painted.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Black rubber fender crowns will be provided around the rear wheel openings.

HANDRAILS

Handrails will be located on the front of the body in positions needed to meet NFPA requirements.

- One (1) vertical handrail, with chrome stanchions, and not less than 29.00" long, will be located on each rear bulkhead.

AIR BOTTLE STORAGE

Provisions for the storage of four (4) spare S.C.B.A. MSA 3000 bottles will be located in the wheel well areas of the fire body. These storage areas will be sized to allow the storage of 4500 psi bottles.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Drain holes will be provided at the bottom of the tubes to prevent water collection. The door will be a cast aluminum door. A nylon tether will be provided to contain the bottles in case the compartment door opens.

EXTENSION LADDER

There will be a 16', three (3) section, aluminum, Duo-Safety, Series 912-A extension ladder provided.

LADDER & HARD SUCTION HOSE STORAGE

A compartment for storing ladders, hard suction hose and tools will be provided in the center of the hose bed. A pair of doors will be provided at the rear of the truck for access to the ladders. The doors will have D-ring latches, and will be vertically hinged to the outboard side and latched at the center.

Storage locations to accommodate three (3) lengths of 2.50" light weight suction hose with short rocker lug couplings and suction screen will be included in this compartment. Also, provisions for the storage of one (1) digging bar and one (1) pike pole, with locking pins to secure each item will be provided.

The ladder portion will accommodate up to a Duo Safety model 912 - 20' three-section fire service extension ladder. The trough for the ladder will be lined with a plastic material for protection of the ladder and ease of ladder removal.

HOSE BED ACCESS STEPS

For access to the hose bed, there will be four (4) cast aluminum rear steps provided. They will be located Per the AD drawing.

These steps will be Cast Products #SP2011. These steps will feature a designed-in grab handle to supplement the NFPA required access rails. An aluminum treadplate scuff plate, large enough to protect the kick-area, will be provided above each step, and will be attached with stainless steel machine screws and Nylock nuts.

I-ZONE BRACKETS - WILDLAND STYLE

A pair of I-Zone brackets will be provided and mounted at the rear of the apparatus, one on each side of the body. The brackets will be designed with adequate reinforcement to eliminate flexing of the body (oil canning) and not interfere with rear facing lights while carrying hose.

The design of these I-Zone brackets will have a 45 degree receiver and a removable extension piece that fits into the brackets for carrying hose.

Two (2) additional wedge steps will be located below the hose bed on each side at the rear. Steps should be as wide as practical and a minimum of 8.00" deep.

PUMP

Pump will be a Darley LSP 1000 gpm midship mounted centrifugal type. It will be driven by PTO from the vehicle transmission.

Pump will deliver the percentage of rated discharge at pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure.

-70% of rated capacity at 200 psi net pump pressure.

-50% of rated capacity at 250 psi net pump pressure.

Pump body will be fine-grained gray iron, bronze fitted. The pump will be easily separated from a one-piece section for convenient servicing when required.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



The impellers will be high strength bronze alloy accurately balanced and splined to pump shaft for precision fit and durability. Double seal ring design will help to minimize end thrust. Deep groove radial type oversize ball bearings will be provided. The bearings will be protected at the openings from road dirt and water with an oil seal and a water slinger.

MECHANICAL SEALS

Mechanical seals will be provided for the pump.

PUMP TRANSMISSION

A three gear transmission with helical gears and a 1.375" diameter splined shaft will be provided. The pump transmission will be driven by a hotshift PTO attached to the Allison Transmission. An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. Interlock system will be designed to allow the truck to be in motion while pumping.

PUMP SHIFT

The main fire pump shift controls will be mounted in the cab and be identified as "PUMP SHIFT" and will include a permanently inscribed pump shift instruction I.D. plate. The pump shift controls will include indicating lights located on the in-cab and left pump panels that advise the operator that the pump shift has been completed and it is O.K. to pump. The indicating lights will be as follows:

1. A "Pump Engaged" light located in the cab and on the left pump panel.
2. An "O.K. to Pump" light located on the left pump panel to indicate the pump is engaged.
3. A "Throttle Ready" light located on the left pump operators panel.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be cylindrical type and will be a separate unit. The heat exchanger will be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.

INTAKE RELIEF VALVE

An Elkhart relief valve will be installed on the suction side of the pump preset at 125 psig. Relief valve will have a working range of 75 psig to 250 psig. Outlet will terminate below the framrails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag. Control will be located behind an access door at the right (passenger's) side pump panel.

RELIEF VALVE

A Darley adjustable relief valve, specially designed for fire service, will be provided.

PUMP PRIMER

An electric pump priming system will be furnished with the apparatus. It will consist of a rotary vane priming pump, driven by a 12 volt electric motor. Dual push button controls will be provided, with one located at the pump operator's control panel and one located in the cab near the auxiliary pump controls.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



When dry, the pump priming system will be capable of taking suction through 20 feet of hard suction hose and discharging water in not more than the time allowed by current NFPA requirements.

AUXILIARY PUMP COVER

A hinged cover with suitable latches will be provided over the pump and power unit assembly. The area around the assembly will remain open for maintenance and air circulation and the radiator will be located behind an expanded metal screen.

RECIRCULATING LINE

A 3/8" line will be run from the discharge side of the main pump to the water tank to help keep the pump cool when water is not being discharged. This line will be designed to circulate water continuously from the pump back to the tank. This water circulation will help to maintain the pump water temperature at a safe level. The recirculation line will include a check valve to facilitate priming.

BACK PACK PUMP FILLER VALVE

A brass, 0.75" quarter turn ball valve with a chrome handle will be supplied for the refill of back pumps. This outlet is gravity fed from the main water tank sump. The valve plumbing will be 0.75" I.D. Aeroquip type hose with swivel fittings. It will be routed to allow smooth flow of water from the tank sump to the valve.

The valve outlet will be installed on the left lower forward side of the pump panel. A 0.75" male garden hose fitting will extend outside the panel to allow the connection of a piece of garden hose to long enough to extend to the outside of the apparatus body as needed to fill back pumps, etc.

A label "BACK PACK FILL" will be provided for this outlet.

PUMP and ROLL PUMP

A Darley #1.5AGE powered by a diesel Briggs and Stratton 26 hp 3 cylinder water cooled engine will be installed on top the pump house. An engine cover with a hinged lid will be installed to cover the engine of the pump unit. The overall height of the installed pump and cover assembly will be held to the approximate height as the top of the hosebeds. The water pump and plumbing will remain exposed.

The pump is rated by Darley on a bench for 180 GPM @ 100 PSI. The performance will be approximately 150 GPM @ 125 PSI at the outlet on the vehicle.

The engine muffler will be mounted horizontally and the exhaust will be routed straight up by way of an elbow with a rain cap. The exhaust will extend out from under the cover assembly far enough to mount the elbow.

The pump will be furnished with a 2.50" inlet line. The pump's intake will be connected to the intake side of the main pump, sharing the main pump's tank to pump valve. A check valve will be installed near the suction branch to maintain the prime of the pump and roll pump.

This unit will be supplied by the chassis diesel fuel system.

Electric start/ stop will be located inside the cab for pump and roll operation.

The following cab controls will be provided:

Toggle- ignition and kill switch

Ignition "on" light

Push button starter switch



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Electric throttle
Digital water pressure gauge
Low oil pressure indicator warning light
High engine temperature warning light
Hour meter
The following pump panel controls will be provided:

Toggle- ignition and kill switch
Ignition "on" light
Push button starter switch
Electric throttle
Digital water pressure gauge
Engine temperature gauge
Engine oil pressure gauge
Low oil pressure indicator warning light
High engine temperature warning light
A key type switch is not acceptable.

A .38" pump recirculation line with check valve will be supplied.

This pump will supply water to all foam capable discharges, a check valve will be provided in the discharge plumbing of auxiliary pump at the main pump's discharge head to prevent backflow from the main pump into the auxiliary pump.

PUMP MANUALS

Two (2) pump manuals from the pump manufacturer will be furnished with the apparatus. The manuals will cover pump operation, maintenance, and parts.

PLUMBING

All inlet and outlet plumbing, 3.00" and smaller, will be plumbed with either stainless steel pipe or synthetic rubber hose reinforced with high-tensile polyester braid. Small diameter secondary plumbing such as drain lines will be stainless steel, brass or hose.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All lines to drain through either a master drain valve or will be equipped with individual drain valves. All individual drain lines for discharges will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

MAIN PUMP INLETS

A 5.00" pump manifold inlet will be provided on the driver's side of the vehicle. The suction inlet will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

The main pump inlets will have National Standard Threads with a long handle chrome cap.

The cap will be the Pierce VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



VALVES

All ball valves will be Akron Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

Valves will have a ten (10) year warranty.

INLET (Left side)

One (1) gated inlet will be provided on the left side of the apparatus at the pump operator's panel. It will be an Akron 8600 series one quarter turn full flow ball valve. The valve will have 2.50" NH threads with a female swivel, chrome plug and chain and a removable screen.

If the gated suction intake valve location on the pump panel is higher than the top of the frame rail, a chrome 30 degree inlet with 2.50" NH female swivel will be supplied.

INLET (Right side)

On the right side pump panel will be one (1) 2.50" auxiliary suction, terminating in 2.50" National Standard Hose Thread. The auxiliary suction will be provided with a strainer, chrome swivel and plug.

Inlet valve location will be outside the pump panel.

ANODE, INLET

A pair of replaceable sacrificial .75" magnesium anodes will be provided in the water pump to protect the pump from corrosion. One (1) will be placed in the inlet side of the pump and the other in the discharge side of the pump.

INLET CONTROL

Control for the side auxiliary inlet(s) will be located at the inlet valve.

INLET BLEEDER VALVE

A .75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with 4.00" heavy duty piping and a quarter turn 3.00" full flow line valve with the control remotely located at the operator's panel. Tank to pump line will run straight (no elbows) from the pump into the front face of the water tank and angle down into the tank sump. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

The control on the pump panel will be "in" when the valve is open and "out" when the valve is closed.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

DISCHARGE OUTLETS (Left Side)

A quantity of one (1) discharge outlet will be provided on the left side pump operator's panel. Each outlet valve will be a 2.50" quarter turn full flow ball valve with a twist lock handle.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



There will be one (1) discharge outlet with a 2.00" valve on the left side of the apparatus, below the deadlays, terminating with a male 2.50" National Standard hose thread adapter. In addition, the discharge will be equipped with a 2.50" female x 1.50" male NST reducer.

DISCHARGE OUTLETS (Right Side)

There will be one (1) discharge outlet with a 2.00" valve on the right side of the apparatus, below the deadlays, terminating with a male 2.50" National Standard hose thread adapter. In addition, the discharge will be equipped with a 2.50" female x 1.50" male NST reducer.

OUTLET, RH

There will be one (1) discharge outlet with a 2.00" valve on the right side of the apparatus, below the deadlays, terminating with a male 2.50" National Standard hose thread adapter. In addition, the discharge will be equipped with a 2.50" female x 1.50" male NST reducer.

FRONT DISCHARGE VALVES

Two (2) 2.00" Akron 8800 self-locking series one quarter turn full flow ball valve with "TSC" style handles and Elkhart model 348, 90 degree swivels with 1.50" NH male threads and chrome caps and chains will be provided.

The valve for the center and left front bumper hose baskets will be located on the left side of the front bumper outboard of the frame rail, be vertically mounted behind the bumper and controlled at the valve.

The valve for the right side hose basket will be located outboard of the frame rail, be vertically mounted behind the bumper and controlled at the valve.

The discharge swivel locations will provide adequate clearance for the use of 1.50" gated wye's and be designed so as not to interfere with the opening and closing of the hood. The swivels will feature stops to prevent them.

REAR DISCHARGE VALVE

A quantity of one (1) discharge outlet with a 2.50" valve will be provided. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve controlled at the valve body. It will be installed with proper clearance for spanner wrenches or adapters.

The valve will be exterior mounted below the passenger's side hosebed.

DISCHARGE CAPS

Chrome plated, rocker lug, caps with chains will be furnished for all side discharge outlets. The caps will be the Pierce VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected.

ELBOWS, LEFT SIDE OUTLETS

The 2.50" discharge outlets, located on the left side pump panel, will be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 30 degree elbow.

The elbow will be the Pierce VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected.

ELBOWS, RIGHT SIDE OUTLETS

The 2.50" discharge outlets, located on the right side pump panel, will be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 30 degree elbow.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



The elbow will be the Pierce VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected.

The 2.50" discharge outlets, located on the right side pump panel, will be furnished with a 2.50"(F) National Standard hose thread x 2.50"(M) National Standard hose thread, chrome plated, 30 degree elbow.

The elbow will be the Pierce VLH, which incorporates a Pierce exclusive thread design to automatically relieve stored pressure in the line when disconnected.

DISCHARGE OUTLET CONTROLS

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve. If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

DEADLAY HOSE BED

A deadlay without plumbing will be provided in upper front area of the pump module, positioned so that a left and a right side discharge can be used to supply the hose stored in the deadlay as a preconnected hose load. The approximate opening size in the pump module will be 9.00" wide by 13.50" high.

The deadlay bed flooring will consist of perforated brushed aluminum. The interior of the deadlay will be unpainted aluminum.

SPEEDLAY HOSE RESTRAINT

There will be black vinyl end flaps provided across each end of one (1) speedlay(s) to secure the hose during travel. The vinyl end flaps will be permanently attached at the back of the speedlay opening. There will be Velcro with jacket snaps in two (2) corners fasteners located at the opposite end of the permanently attached vinyl.

A nylon strap with snap will be provided to hold the flap in the open position for reloading of hose.

TRAYS, DEADLAY

There will be two (2) polypropylene trays provided for the deadlay bed. Each tray may be removed from the sides of the truck and packed individually. The trays will slide out of the deadlay on strips.

The deadlay will also be configured with lips on each side that prevent the trays from moving unless it is lifted up by personnel.

BOOSTER HOSE REEL ABOVE PUMP

One Hannay electric rewind booster hose reel with 2/3 HP motor will be installed over the pump compartment, on the left side of the apparatus. If required, the cargo area above the pump will be structured so as to allow the reel to extend over the pump panel a small distance, or protrude below the cargo floor into the pump compartment. The pump compartment will be flat on top with no side sheets.

The exterior finish of the reel will be painted #269 gray from the reel manufacturer.

A polished stainless steel roller and guide assembly will be mounted on the reel side of the apparatus.

Discharge control will be provided at the reel. Plumbing to the reel will consist of 1.00" hose and piping with a 1.00" valve.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



The reel will include NPSH threaded couplings.

Reel motor will be protected from overload with an automatic reset circuit breaker of no less than 50 amps.

Two (2) electric rewind control switches will be provided, one (1) installed on each pump panel. Booster hose, 1.00" diameter and 150 feet, with chrome plated Barway, or equal couplings will be provided. The couplings will have 1" NPSH threads.

Working pressure of the booster hose will be a minimum of 800 psi.

Capacity of the hose reel will be 150 feet of 1.00" booster hose.

NOZZLE CUP AND BRACKET

A Zico nozzle cup and chrome plated mounting bracket will be provided for storage of the booster reel nozzle.

There will be two (2) provided. The nozzle cup(s) will have a 4-5/8" inside diameter and will be located front body bulkheads.

There will be one (1) additional polished stainless steel roller and guide assembly mounted on the top edge of the passenger side of the compartment to be constructed in the place where an auxiliary pump or second hose reel would be.

HUSKY 3 FOAM PROPORTIONER

A Pierce Husky® 3 foam proportioning system will be provided. The Husky 3 is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically proportion foam solution at rates from .1 percent to 3.0 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system will allow operation from draft, hydrant, or relay operation.

System Capacity

The system will have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi.

100 gpm @ 3 percent

300 gpm @ 1 percent

600 gpm @ 0.5 percent

Class A foam setting in .1 percent increments from .1 percent to 1 percent. Typical settings of 1 percent, .5 percent and .3 percent (maximum capacity will be limited to the plumbing and water pump capacity).

Control System

The system will be equipped with a digital electronic control display located on the pump operators' panel. Push button controls will be integrated into the panel to turn the system on/off, control the foam percentage, and to set the operation modes.

The percent of injection will have a preset. This preset can be changed at the fire department as desired. The percent of injection will be able to be easily changed at the scene to adjust to changing demands.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Three (3) .50 tall LEDs will display the foam percentage in numeric characters. Three (3) indicator LEDs will also be included, one (1) green, one (1) red, and one (1) yellow. The LEDs will indicate various system operation or error states.

The indications will be:

Solid Green - System On

Solid Red - Valve Position Error

Solid Yellow - Priming System

Flashing Green - Injecting Foam

Flashing Red - Low Tank Level

Flashing Yellow - Refilling Tank

The control display will house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump.

Hydraulic Drive System

The foam concentrate pump will be powered by an electric over hydraulic drive system. The hydraulic system and motor will be integrated into one (1) unit.

Foam Concentrate Pump

The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum will be present in its construction.

A relief system will be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump

The foam concentrate pump will have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.

External Foam Concentrate Connection

An external foam pick-up will be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty, or the use of foam different than the foam in the foam tank.

Panel Mounted External Pick-Up Connection / Valve

A bronze three (3)-way valve will be provided. The unit will be mounted to the pump panel. The valve unit will function as the foam system tank to pump valve and external suction valve. The external foam pick-up will be one (1) .75" male connection GHT (garden hose thread) with a cap.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Pick-Up Hose

A .75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a .75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose.

Discharges

The foam system will be plumbed to six (6) discharges. The discharges capable of dispensing foam will be both front 1.5" discharges, the driver and passenger side discharges under the deadlays, the rear discharge, and the hose reel.

System Electrical Load

The maximum current draw of the electric motor and system will be no more than 55 amperes at 12 VDC.

REFILL, SINGLE FOAM TANK

The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller will display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will shut the yellow LED off. If attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED will illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.

FOAM TANK

The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 30 gallons of foam with the intended use of Class A foam. The brand of foam stored in this tank will be TBD. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

FOAM TANK DRAIN

A system of 1.00" foam tank drains will be provided, integrated into the foam systems strainer and tank to foam pump valve management system. The tank to pump hoses running from the tank(s) to the panel mounted strainer will 1.00" diameter. The foam system controller will have a mode that allows for a given foam valve to be opened at will. Flow of foam from the tank valve to the strainer will be usable as a tank drain mode.

An adaptor will be supplied, that allows the 1.00" foam intake screen to assembly to be used as a drain outlet. The standard supplied 1.00" foam pick up hose will be attached to the screen assembly by way of the adapter. The drain mode will allow the operator to open and close the tank valve as required from the control head, to drain foam and re-fill foam containers through the connected hose, without foam spillage beneath the vehicle.

PUMP COMPARTMENT

The pump compartment will be manufactured separate from the hose body and compartments and be attached to the hose body and compartments with bolts. It will be a fabricated assembly



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will have substructure to facilitate the pump mounting. The substructure will be mounted on the chassis frame rails with rubber isolators in a four point pattern to allow for chassis frame flex and motion.

Pump compartment, pump, plumbing, gauge panels, hose body and compartments will be detachable and removable from the chassis and body as a single assembly. When attached to the hose body and compartments, the hose body and compartments will take advantage of the pump compartment as the front mounting system for the hose body and compartments. The rubber isolators of the pump compartment, in conjunction with the rubber isolators used at the rear of the hose body and compartments will perform as a single system to assure that mated unit of pump compartment and body are protected from stress and strain due to chassis flex.

PUMP MOUNTING

Pump will be mounted to the substructure which is attached to the chassis frame rail using the rubber isolators. The mounting allows for vehicle flex while maintaining pump alignment within the pump compartment.

PUMP CONTROL PANELS (Side Control)

All pump controls and gauges will be located at the left (driver's) side of the apparatus and properly marked.

The pump panels will be fastened to the enclosure with screws.

The control panels will be 32.50" wide.

Polished stainless steel trim collars will be installed around all inlets and outlets.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

IDENTIFICATION TAGS

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags will be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels will be done with a threaded peg cast on the back side of the bezel or screws.

PUMP PANEL CONFIGURATION

The pump panel configuration will be neat and orderly.

PUMP AND GAUGE PANEL

The pump and gauge panels will be constructed of black vinyl covered aluminum, to allow easy identification of the gauges and controls and to eliminate glare.

The black vinyl will be bonded to the aluminum by the company that supplies our metal.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



A polished aluminum trim molding will be provided around each panel.

PUMP ACCESS

Access to the pump & plumbing will be provided through a removable panel on the passenger's side pump panel.

If the optional pump panel equipment enclosure has been provided, removal of the enclosure will ensure the greatest amount of access space.

PUMP COMPARTMENT LIGHT

A pump compartment light will be provided inside the right side pump enclosure.

A .125" weep hole will be provided in each light lens, preventing moisture retention.

Engine monitoring graduated LED indicators will be incorporated with the pressure controller.

Also provided at the pump panel will be the following:

- Master Pump Drain Control
- Engine Throttle, Fire Research ThrottleXcel and monitoring display.

COMPARTMENT, PUMP PANEL

A compartment, constructed of aluminum Treadplate, will be installed on the passenger's side pump panel for storage of long handle tools. The compartment will be bolt-on construction to allow removal for pump access. Inside of the compartment would be bare aluminum.

The compartment will be approximately 60.00" high (interior) x 20.00" wide (interior) x 11.00" deep.

GAUGES, VACUUM and PRESSURE

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1, Inc.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1 interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauges will only be installed for outlets at the pump panels. The gauges will be installed as close to the outlet control as practical.

This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



FOAM LEVEL GAUGE

An electronic foam level gauge will be provided on the operator's panel that registers foam level by means of five colored LED lights. The lights will be durable, ultra-bright five LED design viewable through 180 degrees. The foam level indicators will be as follows:

- 100% = Green
- 75% = Yellow
- 50% = Yellow
- 25% = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank. The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level.

LIGHT SHIELD

There will be a polished, 16 gauge stainless steel light shield installed over the pump operators panel.

- There will be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.
- One (1) pump panel light will come on when the pump is in ok to pump mode.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel. There will be a green pump engaged indicator light activated on at the operator's panel when the pump is shifted into gear from inside the cab.

PASSENGER SIDE PUMP PANEL ILLUMINATION

LED shielded lighting will be provided to illuminate the passenger's side pump panel. The lights will be operated from a switch on the pump panel.

AIR HORN SYSTEM

One (1) Hadley air horn will be provided and installed behind the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air, in the brake system.

AIR HORN CONTROL

The air horn will be actuated by a chrome push button switch located on the officer side of the engine tunnel and by a foot switch on the driver's side.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



ELECTRONIC SIREN

A Whelen, Model: 295SLSA1, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and that emergency master switch is on. Siren head will be located in an accessible under dash position.

Siren will be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver will have the option to control the siren or the chassis horns from the horn button by means of a selector switch.

SPEAKER

There will be one (1) speaker provided. Each speaker will be a Whelen model SA315P black nylon composite, 100-watt, with through bumper mounting brackets. Each speaker will be connected to the siren amplifier.

The speaker(s) will be recessed in the front bumper on the driver's side.

LIGHTBAR

There will be one (1) 56.00" Whelen, Model Justice LED lightbar mounted on the cab roof. This lightbar will include the following:

- Four (4) red flashing forward facing LED modules.
- Two (2) red steady burn forward facing LED modules.
- Two (2) clear flashing forward facing LED modules.
- Two (2) red flashing front corner LED modules.
- Two (2) red flashing rear corner LED modules.

There will be one (1) switch, located in the cab on the switch panel, to control this lightbar. All lenses will be clear except the two over the steady reds in the front will be red. All white warning lights will be disabled when the parking brake is set.

WARNING LIGHTS

A pair of surface mounted Whelen model RSR02ZCR, LIN3 Super LED flashing lights will be provided on the grille.

The color of these lights will be red.

A switch will be provided inside the cab on the switch panel for actuation.

These lights will be installed with a plastic, chrome-plated flange.

HEADLIGHT FLASHER

There will be a Federal Signal Model FHLP-CV flasher installed to flash the high beam headlights.

There will be a switch installed in the cab on the switch panel to control the high beam flash.

This switch will be live when the battery switch and the emergency master switches are on.

The flashing will automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.

SIDE ZONE LOWER LIGHTING

Four (4) Whelen, Model: 50*03Z*R flashing LED lights will be located at the following positions:

Two (2) lights, one (1) each side on the bumper extension.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



The color of these lights will be red Super LED/red lens.
Two (2) lights, rear of axle, one on each side fender.
The color of these lights will be red Super LED/red lens.
The above four (4) lights will be required to meet the lower level optical warning and optical power requirements of NFPA.
One (1) switch located in the cab on the switch panel will control these lights.
These lights will be provided with a chrome plated ABS plastic flange

REAR ZONE LOWER LIGHTING

Two (2) Whelen, SUPER-LED™ model 50*03F*R flashing LED lights will be located at the rear of the apparatus required to meet the lower level optical warning and optical power requirements of NFPA.
The color of the lights will be red Super LED/red lens
Each light will be installed with a chrome plated ABS plastic flange

WARNING LIGHTS (Rear and Side upper zone)

Six (6) Whelen, SUPER-LED, model 50*03Z*R flashing Super LED lights will be provided:
Four (4) at the rear of the truck in the upper zone facing the rear.
The upper pair will be both red Super LED/red lens.
The lower pair will be both red Super LED/red lens.
One (1) at the rear of the truck in the upper zone facing the driver side.
One (1) at the rear of the truck in the upper zone facing the officer side.
The color of these lights will be red Super LED/red lens.
One (1) switch located in the cab on the switch panel will control these lights.
These lights will be installed with chrome plated flanges

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:
- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

SOFT SUCTION HOSE, PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2009 edition, section 6.6.2 requires a minimum of 20 ft. of suction hose or 15 ft. of supply hose.
Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

COMMERCIAL CHASSIS PAINT

The chassis will be painted by the chassis manufacturer. It will remain the color and commercial quality finish as provided. The primary color will be Pierce #20 white.

PAINT

The exterior custom body painting finishing process as follows:
Manual Surface Preparation - All exposed metal surfaces on the custom body will be thoroughly cleaned and prepared for painting. Surfaces that will not be painted include all chrome plated, stainless steel, anodized aluminum and bright aluminum treadplate. Each imperfection on the exterior metal surface will be removed or filled and then sanded smooth for a smooth appearance. All seams will be sealed before painting.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



Chemical Cleaning and Treatment - The metal surfaces will be properly cleaned using an acid etching system. Surfaces are chemically cleaned to remove all dirt, oil, grease and metal oxides to ensure the subsequent coatings bond well. An ultra-pure water final rinse will be applied to all metal surfaces, excluding undercarriage components, at the conclusion of the metal treatment process.

Sealer Primer Coat - A two (2) component sealer primer coat will be applied.

Topcoat Paint - Urethane base coat will be applied to opacity for correct color matching.

Clearcoat - Two (2) coats of an automotive grade two (2) component urethane will be applied.

Lap style doors will be clear coated to match the body. Roll-up doors will not be clear coated and the standard roll-up door warranty will apply.

All removable items such as brackets, compartment doors, door hinges, trim, etc. will be removed and painted separately to insure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

The chassis will be painted by the chassis manufacturer, and will remain the commercial grade finish as provided. To ensure a good color match between the body and chassis, the apparatus manufacturer and chassis manufacturer will have a mutually preapproved paint color program.

The apparatus will be painted Pierce #20 white.

Prior to reassembly and reinstallation of lights, handrails, door hardware and any miscellaneous body items, an isolation tape or gasket material must be used to prevent damage to the finish painted surfaces. A nylon washer will be installed under each acorn nut or metal screw that is fastened directly to a painted body surface.

PAINT - ENVIRONMENTAL IMPACT

Contractor will meet or exceed all current State (his) regulations concerning paint operations.

Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers must be chrome and lead free.
- Metal treatment chemicals must be chrome free. The wastewater generated in the metal treatment process must be treated to remove any other heavy metals.
- Particulate emissions from painting operations must be collected by a dry filter or water wash process.
- Solvents used in clean-up operations must be collected, sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that his manufacturing facility meets the above conditions and that it is in compliance with his State EPA rules and regulations.

PAINT CHASSIS FRAME ASSEMBLY

The chassis frame assembly shall be painted black by the chassis manufacturer. It shall remain the commercial grade finish as provided.

WHEEL PAINT

The wheels will be painted by the chassis manufacturer to match the main color of the cab.

WHEELS, ACCENT STRIPE

The exposed outer edge circumference of the wheel will be painted with a silver accent stripe.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



PAINT, COMPARTMENT INTERIOR

The interior of compartments D1, D2, P1, P2 and R1 will be painted with a gray spatter type paint.

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" black stripe at the top with a 1.00" gap then a 6.00" gold stripe with a 1.00" gap and a 1.00" black stripe on the bottom.

The reflective vinyl band will be provided across the front bumper.

OUTLINE, REFLECTIVE STRIPE

A Black outline will be applied on the top and the bottom of the reflective band. There will be one (1) set of outline stripes required.

CAB DOORS REFLECTIVE STRIPE

A [Color, Reflective] reflective stripe will be provided on the interior of each cab door. This stripe will be a minimum of 96.00 square inches and will meet the NFPA 1901 requirement.

LETTERING

Forty-one (41) to sixty (60) reflective lettering, 3.00" high, with outline will be provided.

LETTERING, SCRIPT

Script lettering shall be provided on the rear body compartment door. The lettering will state "Everyone Comes Home".

EMBLEMS

There will be two (2) monogram emblem(s) installed on the front cab doors, with "DENVER" above the monogram and "FIRE DEPT." below the monogram.

The monogram and lettering will be made of gold reflective material with black outline.

The design will be the same as on previous units.

EMBLEM

There will be one (1) emblem(s), approximately 24.00" - 25.00" wide in size, installed R1. The emblem will feature a "Flying American Flag" and an "Eagle Head".

CD MANUAL, BODY PARTS ONLY

A custom parts manual for the Pierce® installed parts only will be provided in CD format with the completed unit.

The manual will contain the following:

- Job number
- Part numbers with full descriptions
- Table of contents
- Parts section sorted in functional groups reflecting a major system, component, or assembly
- Parts section sorted in Alphabetical order
- Instructions on how to locate parts

The manual will be specifically written for the body model being purchased. It will not be a generic manual for a multitude of different bodies.



DENVER FIRE DEPARTMENT PIERCE IHC 7400 4X4 TYPE-3 WILDLAND



SERVICE PARTS INTERNET SITE

The service parts information included in this manual are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

MANUALS, SERVICE

A CD format service manual supplement containing parts and service information on Pierce® installed components will be provided with the completed unit.

The manual will be specifically written for the unit being purchased. It will not be a generic manual for a multitude of different units.

MANUAL, CHASSIS OPERATION

One (1) chassis operation manual will be provided with the completed unit.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

Each new piece of apparatus will be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty will cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate will be submitted with the bid package (No Exception).

CHASSIS WARRANTY

The basis chassis warranty will be for a total of **one (1) year exclusive of miles/kilometers**.

PAINT WARRANTY

The commercial chassis manufacturer's paint warranty will apply to the paint on the chassis only.

COMPARTMENT LIGHT WARRANTY

A ten (10) year material and workmanship limited warranty will be provided for the Pierce 12 volt DC LED strip lights. The warranty will cover the LED strip lights to be free from defects in material and workmanship that would arise under normal use.

A copy of the warranty certificate will be submitted with the bid package (No Exception).

TRANSMISSION WARRANTY

The transmission will have a **five (5) year/unlimited mileage** warranty covering 100 percent parts and labor. The warranty to be provided by Allison Transmission and not apparatus builder.

TEN (10) YEAR STRUCTURAL INTEGRITY

The Pierce apparatus body limited warranty certificate, WA0009, is included.

ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY

A Gortite roll-up door limited warranty will be provided. The mechanical components of the roll-up door will be warranted against defects in material and workmanship for the lifetime of the vehicle. A six (6) year limited warranty will be provided on painted and satin roll up doors.

The limited warranty certificate, WA0190, is included.

PUMP WARRANTY

A Darley pump limited warranty certificate, WA0179, is included.



**DENVER FIRE DEPARTMENT
PIERCE IHC 7400 4X4 TYPE-3 WILDLAND**



TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included.

FOAM SYSTEM WARRANTY

The Husky 3 foam system limited warranty certificate, WA0231, is included.

TEN (10) YEAR PRO-RATED PAINT AND CORROSION

A Pierce body limited pro-rated paint warranty certificate, WA0057, is included.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

The Pierce graphics fading and deterioration limited warranty certificate, WA0168, is included.

CAB INTEGRITY

The cab has been tested to and passed the following standards:

- ECE Regulation No.29
- SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- 1) Documentation of the electrical system performance tests.
- 2) A written load analysis, which will include the following:
 - A) The nameplate rating of the alternator.
 - B) The alternator rating under the conditions specified per:
Applicable NFPA 1901 or 1906 (Current Edition).
 - C) The minimum continuous load of each component that is specified per:
Applicable NFPA 1901 or 1906 (Current Edition).
 - D) Additional loads that, when added to the minimum continuous load, determine the total connected load.
 - E) Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).