

TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT

AND GENERAL SUPPORT MAINTENANCE MANUAL

[INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST]

FOR

TRUCK, FIREFIGHTING, DRY CHEMICAL AFF

NSN 4210-00-484-5729

VOLUME II

HEADQUARTERS, DEPARTMENT OF THE ARMY

14 APRIL 1986

TECHNICAL MANUAL
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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 14 April 1986

**Operator's, Organizational, Direct Support,
and General Support Maintenance Manual
(Including Repair Parts and Special Tools List)**

for

**TRUCK, FIREFIGHTING, DRY CHEMICAL AFFF
NSN 4210-00-484-5729**

This manual consists of 3 volumes.

Each volume has its own table of contents. The index found in Volume I pertains only to Volume I.

VOLUME I is the Illustrated Parts Breakdown for the entire truck.

VOLUME II contains the Operation, Maintenance, and Repair Manual for:
ENGINE, TRANSMISSION, CHASSIS, CAB and RELATED ITEMS

VOLUME III contains the Operation, Maintenance and Repair Manual for:
TWIN AGENT UNIT, INVERTER, HYDRAULIC RESCUE TOOL (Jaws of Life),
POWER UNIT, RESCUE SAW 10 TON HYDRAULIC RESCUE KIT,
ELECTRONIC SIREN

NOTE: Throughout these manuals, information has been deleted which is not pertinent.

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistake or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished directly to you.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

If your fire truck needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at Commander, U.S. Army Troop Support Command, ATTN: AMSTR-QX, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished to you.

INTRODUCTION

a. **Purpose and Function.**

This manual covers a commercial, diesel-engine-driven 4x4 truck cab and chassis, equipped with a dual agent fire extinguisher system, a remote controlled roof mounted twinned turret and hose reel for dispensing aqueous film forming foam (AFFF) and dry chemical, with equipment cabinets.

b. **Capabilities**

The commercial diesel-engine-driven 4x4 truck firefighting vehicle is capable of discharging an AFFF action solution through 100 feet of hose or twinned turret ambient temperature at a minimum-maximum range of 45 to 60 gallons per minute at 100 pounds per square inch gage pressure, with a nozzle ground pattern reach of 50 feet with a minimum width of 14 feet. It is also capable of discharging a dry chemical P-K-P, at normal ambient temperature within a minimum-maximum range of 5.0 to 8.0 pounds per second at 100 psig pressure, with a ground pattern reach of 35 to 40 feet. The combined agent fire extinguisher system is also capable of operating in any normal ambient temperature above 32° F.

c. **Performance Characteristics**

The fully equipped commercial, diesel-engine-driven 4x4 truck firefighting vehicle is capable of performing the following:

1. Attaining a maximum speed of not less than 65 mph on dry, level, paved roadway.
2. Accelerating on a level road from a standing start to a speed of 50 mph in 30 seconds.
3. Negotiating a 50 percent grade traveling both up and down the hill in a low speed range.
4. Operating on a 20 percent side slope in two directions.
5. Stopping within a braking distance of 30 feet from a speed of 20 mph on a dry, smooth, level surface free from loose material using service brakes.
6. Holding the truck on a 30 percent grade in both ascending and descending positions using the parking brake and repeating the operation using the service brake.

d.

Table of Specifications, Dimensions and Weights.

CHASSIS TYPE	International Harvester
.....	...1854 (4x4) S-Series

OVERALL DIMENSIONS

Length	19'-0"
Width	97"
Height	131"

GROSS VEHICLE WEIGHT

Loaded	19,446 lbs.
Unloaded	15,960 lbs.

WHEEL BASE (INCHES) 152 Inches

ENGINE TYPE	International Harvester 9.0 Liter
Number of Cylinders.....	8
Horsepower	165
Bore	114.6 mm (4.51 IN)
Stroke	109.5 mm (4.31 IN)
Displacement	9000 cm3 (551.1 IN3)
Idle Speed (No Load)	625-675 rpm
Governed Speed	
No Load	3025-3125 rpm
Full Load	2800 rpm
Firing Order	1-8-7-3-6-5-4-2
Engine Weight (Dry).....	576.6 kg (1270 lbs)
Cooling System Capacity	19.5 US Quarts
Lubricating System Capacity (Including Filters)	14 US Quarts

TRANSMISSION TYPE.....	Detroit Allison, GM, AT545
	 4 Speed Automatic
Rating	
Input Torque	385 lbs. ft. (max)
Input Speed	3200 rpm (max) (diesel)
Input Horsepower	235 hp (175 kw) (max)
Drive	Flexplate
Rotation	... (Viewed from Input)
Input	Clockwise
Output	Clockwise
Output Location	In Line with Input
Dry Weight	275 lbs. (125 kg)
Clutches	Oil Wet, Hydraulic Actuated, Spring Released, Self Compensating for Wear
Gearing	Planetary, Straight-Cut Spur, Constant Mesh
Oil Filter and Sump.....	Integral
Fluid	GM Dexron II or Dexron Transmission Fluids
Fluid Capacity	16 US Quarts

TRANSFER CASE

Manufacturer Rockwell
Model T-223H

AIR COMPRESSOR		
Manufacturer	.....	Midland Ross
Model	.....	EL 740
AIR DRYER		
Manufacturer	.....	Brakemaster
Model	.....	62
POWER STEERING PUMP		
Manufacturer	.....	Eaton
Model	.....	781
STEERING GEAR		
Manufacturer	.....	Ross
Model	.....	HFB 64
STARTING MOTOR		
Manufacturer	.....	Delco
Model	.....	1114 120
Volts	.....	12
WHEELS, FRONT 6 SPOKE		
Manufacturer	.....	International Harvester
Model	.....	465 525 C91
WHEELS, REAR, 5 SPOKE		
Manufacturer	.....	International Harvester
Model	.....	595 989 C91
FUEL TANK		
Manufacturer	.....	International Harvester
Model	.....	509 045 C1
Capacity 30	.....	US Gallons
Fuel	.....	Diesel Fuel
ALTERNATOR		
Manufacturer	.....	Leece-Neville
Model	.....	4725
Volts	.....	130
AMP Rating	.....	55 at 14 Volts DC
SIREN, ELECTRONIC		
Manufacturer	.....	Federal Signal Corporation
Model	.....	PA300*
Frequency Range	.....	300-10,000 Hz
Input Voltage	.....	11 V.D.C. - 16 V.D.C.
Operating Current	.....	10 Amperes Max.
SPOTLIGHT		
Manufacturer	.....	Unity Manufacturing Company
Model	.....	S-6/225-V

LAMP, QUARTZ (FRONT)

Manufacturer	Havis Shields
Model	605-500
Watts	500

LAMP, QUARTZ (TELESCOPING)

Manufacturer	Havis Shields
Model	305-500
Watts	500

SKID UNIT

Manufacturer	Rockwood Systems Corporation
Model	RTS 1500/250
Capacity	
AFFF	250 Gallons
Dry Chemical	1400 lbs. PKP ((70) 50 lb. cans)
Size	621" W x 121" L x 731" H
Weight (With Full Nitrogen Tanks)	
Empty	2,900 lbs.
Full	6,500 lbs.
Propellant	Nitrogen Gas (5) Cylinders @ 2400 PSIG

TWIN AGENT HOSE REEL (12V DC Explosion Proof 1/2 HP Motor)

Manufacturer	Clifford B. Hannay & Sons, Inc.
Model	7000 Series
Size	28" W x 44" L x 24" H
Hose	100 Ft., 1" Non-Collapsible Twin Hose

TWIN AGENT HANDLINE

Manufacturer	.....	Rockwood Systems Corporation
Model	.....	510-1678
Discharge Rate		
AFFF	.....	60 gpm @ 100 psi
Dry Chemical	.....	5-8 lbs./ sec. @ 100 psi
Effective Range		
AFFF		
Solid Stream	.....	60 ft.
Fully Dispersed Stream	15 ft. wide at 26 ft. range	
Dry Chemical	.....	25-40 ft.
AFFF Quality		
Expansion 8 (Minimum)		
One Quarter Drainage Time	3 Minutes (Minimum)	
		per NFPA 412

TWIN AGENT TURRET

Manufacturer	.....	Rockwood Systems Corporation
Model	.....	510-1679
Discharge Rate		
AFFF	..... ..	100-400 gpm - 100 ft. minimum far point
		17 ft. minimum full width
Dry Chemical	10-25 lbs./sec-	90 ft. minimum far point
		15 ft minimum full width
Rotation	.....	180° minimum
Elevation	.....	80°
Depression	.....	20°

POWER RESCUE TOOL (JAWS OF LIFE)

Manufacturer	.....	Hurst Performance, Inc.
Model	.....	32b
Capacity	.....	10 Tons
Size	.....	14" H x 16" W x 291" L

POWER UNIT, POWER RESCUE TOOL

Manufacturer	.....	Hurst Performance, Inc.
Model	.....	4 Cycle
Size	.....	14+" W x 18+" L x 231" H

RESCUE SAW

Manufacturer	.....	Partner
Model	.....	K 1200-12"
Engine	.....	100cc Air Cooled, Two Cycle
Fuel Partner	.....	Oil/Gasoline
	....	1:50 Ratio or other quality 2 stroke oil
	....	@ 1:25 ratio

HYDRAULIC RESCUE KIT

Manufacturer	.....	Black Hawk
Model	.....	65066
Capacity	.....	10 Tons
Size	.....	8" H x 15" W x 36" L

AIRCRAFT RESCUE TOOL KIT

Manufacturer	.....	Halprin Supply Company
Model	.....	CRK5 Sierra
Size	.....	6" W x 6" H x 28" L
Weight	.....	8 lbs.

INVERTER

Manufacturer	.....	Dynamote
Model	.....	A30 - 70D
Size	.....	141" L x 12 3/4" W x 10" H
Input	.....	12V DC
Output	.....	120V 60 Hz AC

TIRES

Manufacturer	.....	Good Year
Model Super	.....	Single/Traction Road Lug, Tubeless
Size	.....	16.5-22.5
Load Range	.....	H
Plies	.....	
Tread	.....	11 Plies Nylon Cord
Sidewalls	.....	10 Plies Nylon Cord
Maximum Load	.....	9230 lbs. @ 90 psi (cold)

e. **Environmental Requirements**

The commercial, diesel-engine-driven 4x4 firefighting truck is in compliance with current Department of Transportation Federal Motor Vehicle Safety Standards and Regulations and Environmental Protection Agency Regulations regarding air pollution and noise levels.

f. **List of Items Furnished.**

1. Truck, firefighting, dry chemical, AFFF, 4x4 commercial NSN 4210-00-484-5729
2. Rescue saw, Partner-model K 1200-12"
3. Hydraulic rescue kit, 10 ton capacity, Blackhawk - Model 65066
4. Aircraft crash rescue tool kit, Halprin Supply Co. - Model CRK - Sierra
5. Hydraulic - powered rescue tool (Jaws of Life), Hurst - Model 32b
6. Power unit, hydraulic - powered rescue tool, Hurst - 4 cycle

g. **List of Items Required**

The following related manuals contain operation, maintenance and overhaul instructions, with an illustrated parts breakdown required for the complete operation and maintenance of the commercial diesel-engine-driven 4x4 firefighting truck.

1. The illustrated Parts Breakdown manual lists and describes the parts necessary for identifying each part and also for identifying each individual assembly and sub-assembly.
2. The Operation and Maintenance manual lists and details all phases of operation, maintenance, overhaul and trouble-shooting procedures for the commercial, diesel-engine-driven 4x4 firefighting truck.

h. **Warranty Information.**

Data required in this section consists of basic procedures found in each section of the Operation and Maintenance manual. Individual procedures which include required tools and test equipment should be adhered to for proper operation of the vehicle.

Vendor warranty information is found at the beginning of each major component section and covers the vehicle as designed. The contractor warrants that vehicle is manufactured to conform to the performance requirements, special contract requirements, and other supplementary agreements entered into by the United States and the Kovatch Corporation.