SECTION I KID DATA

KID DATA

Weight		
Basic Tractor (with front and rear support structure)	2,200 lbs.	(998 Kg)
Payload	1,000 lbs.	(454 Kg)
Gross Vehicle Weight	3,200 lbs.	(1,452 Kg)
Dimensions (Without Optional Equipment)		
Length	96.0 in.	(243.8 cm)
Width	60.0 in.	(152.4 cm)
Height	45.0 in.	(114.3 cm)
Wheel Base	73.4 in.	(186.4 cm)
Ground Clearance	6.5 in.	(16.5 cm)
Cargo Area	22.0 sq. ft.	(2.0 sq. m)
Body Construction		
Upper and Lower Hull	Steel - Unitized, Watertight	
Drive Train		
8-Wheel Drive	Chain Sprocket System	
Mechanical Drive Ratio (Standard)	9. 7:1 (or 13.4:1 optional)	
Electrical System		
Battery	12 volt, 32 amp. hour	
Alternator	Flywheel type, Solid State, 12 volts, 10 amp.	
Engine		
Make	Wisconsin VH4D (gasoline)	
Type	Air-cooled, 4-Cylinder, 4 Cycle	
Weight	340 lbs (154.4Kg)	
Displacement	107.7 cu. in. (1,765cc)	
Horsepower	30 hp (30.4 metric) @ 2800 RPM	
Transmission		
Make	Vickers T1515Y	
Type	Right-Angle Hydrostatic	
Displacement (pump and motor)	2.01 cu. in. (32.9 cc) per revolution @ 2400 RPM	
Output Speed	0-4000 RPM, infinitely variable and reversible	
Maximum Operating Pressure	4,500 PSI (316.4 Kg/sq. cm.	
Tires		
Size	23 x 8.50 x 12 All terrain type	
Tubes	Optional	
Pressure - Standard 2-ply	10-20 PSI	
- Optional 4-ply	10-24 PSI	
Tread	46.0 in. (116.8 cm.)	
Ply	2 (4 optional)	

Performance

Maximum Speed (Land)	25 MPH (40.2 Kms/hr)
Maximum Speed (Water)	1.5 MPH (2.4 Kms/hr)
Gradeability	70% (60% continuous)
Side Slope	50% (40% continuous)
Turning Radius	0 ft. (pivot)
Turning diameter (Minimum)	10 ft. 8 inches (2 inch clearance each corner)

SECTION II
SPECIFICATIONS

FLUID CAPACITIES			
	U. S. Measure	Imperial Measure	Metric Measure
Fuel	9.3 gallons	7.7 gallons	35.2 liters
Engine Oil (with filter change)	4.0 quarts	3.3 quarts	3.8 liters
Hydraulic System	20.0 quarts	16.7 quarts	18.9 liters
Gearbox	.50 quart	.43 quart	.48 liter

FUEL SPECIFICATIONS

The use of quality gasolines will provide maximum performance from your engine. A good regular grade of gasoline, with an octane rating of 78 or above, should be used in your engine. Gasoline with an octane rating of less than 78, or gasoline of an inferior quality will cause severe damage to your engine.

OIL SPECIFICATIONS

The use of proper oil is required and recommended for continued economical and trouble-free performance. Lubricating oils are graded by viscosity and classified in accordance with severity of operation.
The oil recommended for use in the KID engine, gearbox, and transmissions is classified as MS (Most Severe). This oil meets specifications required for tractors operating under unfavorable or severe operating conditions.
The viscosity grades of oil recommended for the KID are listed in the following chart.

For Engine, Gearbox, and Transmissions

Expected Temperature	Viscosity
0° F (-18° C) and above	SAE 10W-30
Below 0° F (-18° C)	SAE 5W-20

RECOMMENDED TOOLS AND EQUIPMENT

The special tools or equipment recommended for a KID dealer or distributor are:

A. Shop Tools

1. Vacuum gauge and line.
2. Compression gauge.
3. Power timing light.
4. Multi-meter or an ammeter(30 amp). voltmeter (0-24 volts), and ohmeter (0-10 K with multiple scales).
5. Remote Starter Switch
6. Feeler gauge.
7. Pressure gauge 0 - 250 psi (0-17.58 Kg/sq. cm)
8. Axle puller and gear puller with slide hammer.
9. Jack stands (8)
10. A-frame (80" wide and 10 feet high) with a chain hoist (1000 pound (454 Kg) lift minimum, 3000 pounds (1361 Kg) recommended).
11. Floor jacks
12. Arbor press (5000 pound (2268 Kg) force).
13. Growler
14. Micrometer Set (0 - 2 inches) inside and outside.
15. Electric drill (½ inch) and drill bits.
16. Set of punches (center and drift).
17. Electric welder.
18. Acetylene torch, with cutting and brazing tips.
19. Air compressor - 100 psi (70 Kg/sq. cm) working pressure.
20. Torque wrench (9 - 100 ft-lbs) (0 - 100 in.-lbs.)
21. Bench grinder.
22. Pocket size tire gauge.
23. Bench vise, machinist (4½" jaws-7" opening).
24. Booster cables.
25. Track jack.
26. Battery charger.
27. Hydrometer.
28. Battery tester.
29. Wash facility (soap and water).
30. Face shields.
31. Goggles.
32. Alternator - generator & regulator tester.
33. Coil and ignition tester.
34. Exhaust gas analyzer.
35. Gasket scraper.
36. Oil filter strap wrench.
37. Inspection (dental) mirrors.
38. Magnetic pick-up tools.
39. Tap and die set (standard screw threads).
40. Parts washer (solvent, with pump)
41. Air impact wrenches.
42. Shop vacuum sweeper.
43. Steam jenny.
44. Magnetic key inserter.
45. Gasket punch set.

B. Engine Tools

1. Distributor brush.
2. Carburator distributor adjustment tool.
3. Tappet adjustment tool.
4. Distributor wrench.
5. Burnishing hone.
6. Cylinder hone.
7. Cylinder ridge reamer.
8. Piston ring compressor.
9. Piston ring expander.
10. Piston groove cutter.
11. Valve lifter tool.
12. Valve grinder.
13. Valve seat reamers.
14. Valve seat refacer set with abrasive discs.
15. Valve spring lifter.
16. Valve spring compressor.
17. Wire brushes.

CONVERSION TABLES

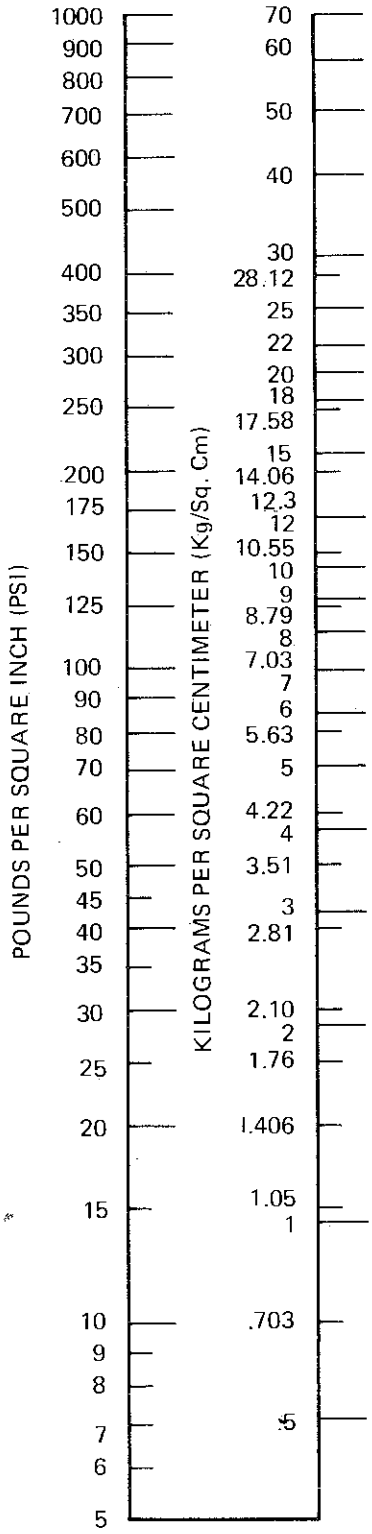
TORQUE - FT LBS TO Kg m			
Torque (Ft-Lb)	Torque (Kg m)	Torque (Ft-Lb)	Torque (Kg m)
5	(0.6915)	95	(13.1385)
6	(0.8298)	105	(14.5215)
8	(1.1064)	110	(15.2130)
10	(1.3830)	115	(15.9045)
11	(1.5213)	120	(16.5960)
12	(1.6596)	150	(20.7450)
13	(1.7979)	160	(22.1280)
14	(1.9362)	167	(23.0961)
18	(2.4894)	170	(23.5110)
19	(2.6277)	175	(24.2025)
20	(2.7660)	210	(29.0430)
24	(3.3192)	235	(32.5005)
27	(3.7341)	240	(33.1920)
28	(3.8132)	250	(34.5750)
30	(4.1490)	270	(37.3410)
31	(4.2873)	280	(38.7240)
34	(4.7022)	295	(40.7985)
35	(4.8405)	375	(51.8625)
39	(5.3937)	395	(54.6285)
41	(5.6703)	420	(58.0860)
44	(6.0852)	435	(60.1605)
49	(6.7767)	440	(60.8520)
51	(7.0533)	590	(81.5970)
55	(7.6065)	605	(83.6715)
75	(10.3725)	660	(91.2780)
78	(10.7874)	675	(93.3525)
83	(11.4789)	910	(125.8530)
85	(11.7555)	990	(136.9170)

POUNDS TO KILOGRAMS							
LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.
1	.454	31	14.06	61	27.97	91	41.28
2	.907	32	14.51	62	28.12	92	41.73
3	1.361	33	14.97	63	28.58	93	41.18
4	1.814	34	15.42	64	29.03	94	42.64
5	2.268	35	15.88	65	29.48	95	43.09
6	2.722	36	16.33	66	29.94	96	43.54
7	3.175	37	16.78	67	30.39	97	44.00
8	3.629	38	17.24	68	30.84	98	44.45
9	4.082	39	17.69	69	31.30	99	44.91
10	4.536	40	18.14	70	31.75	100	45.36
11	4.990	41	18.60	71	32.21	200	90.72
12	5.443	42	19.05	72	32.66	300	136.08
13	5.897	43	19.50	73	33.11	400	181.44
14	6.350	44	19.96	74	33.57	500	226.80
15	6.804	45	20.41	75	34.02	600	272.16
16	7.257	46	10.87	76	34.47	700	317.51
17	7.711	47	21.32	77	34.93	800	362.87
18	8.165	48	21.77	78	35.38	900	408.23
19	8.618	49	22.23	79	35.83	1000	453.59
20	9.072	50	22.68	80	36.29	2000	907.18
21	9.525	51	23.13	81	36.74	3000	1360.78
22	9.979	52	23.59	82	37.19	4000	1814.37
23	10.43	53	24.04	83	37.65	5000	2267.96
24	10.89	54	24.49	84	38.10	6000	2721.55
25	11.34	55	24.95	85	38.56	7000	3175.15
26	11.79	56	25.40	86	39.01	8000	3628.74
27	12.25	57	25.85	87	39.46	9000	4082.33
28	12.70	58	26.31	88	39.92	10000	4535.92
29	13.15	59	26.76	89	40.37	15000	6803.89
30	13.61	60	27.22	90	40.82	20000	9071.85

INCHES (FRACTIONS & DECIMALS) TO MILLIMETERS			
INCHES	MM	INCHES	MM
1/64 = .0156	.3969	33/64 = .5156	13.0969
1/32 = .0312	.7937	17/32 = .5312	13.4937
3/64 = .0469	1.1906	35/64 = .5469	13.8906
1/16 = .0625	1.5875	9/16 = .5625	14.2875
5/64 = .0781	1.9844	37/64 = .5781	14.6844
3/32 = .0937	2.3812	19/32 = .5937	15.0812
7/64 = .1094	2.7781	39/64 = .6094	15.4781
1/8 = .125	3.1750	5/8 = .625	15.8750
9/64 = .1406	3.5719	41/64 = .6406	16.2719
5/32 = .1562	3.9687	21/32 = .6562	16.6687
11/64 = .1719	4.3656	43/64 = .6719	17.0656
3/16 = .1875	4.7625	11/16 = .6375	17.4625
13/64 = .2031	5.1594	45/64 = .7031	17.8594
7/32 = .2187	5.5562	23/32 = .7187	18.2562
15/64 = .2344	5.9531	47/64 = .7344	18.6531
1/4 = .25	6.350	3/4 = .75	19.050
17/64 = .2656	6.7469	49/64 = .7656	19.4469
9/32 = .2812	7.1437	25/32 = .7812	19.8437
19/64 = .2969	7.5406	51/64 = .7969	20.2406
5/16 = .3125	7.9375	13/16 = .8125	20.6375
21/64 = .3281	8.3344	53/64 = .8281	21.0344
11/32 = .3437	8.7312	27/32 = .8437	21.4312
23/64 = .3594	9.1281	55/64 = .8594	21.8281
3/8 = .375	9.5250	7/8 = .875	22.2250
25/64 = .3906	9.9219	57/64 = .8906	22.6219
13/32 = .4062	10.3187	29/32 = .9062	23.0187
27/64 = .4219	10.7156	59/64 = .9219	23.4156
7/16 = .4375	11.1125	15/16 = .9375	23.8125
29/64 = .4531	11.5094	61/64 = .9531	24.2094
15/32 = .4687	11.9062	31/32 = .9687	24.6062
31/64 = .4844	12.3031	63/64 = .9844	25.0031
1/2 = .5	12.700	1 = 1.0000	25.40

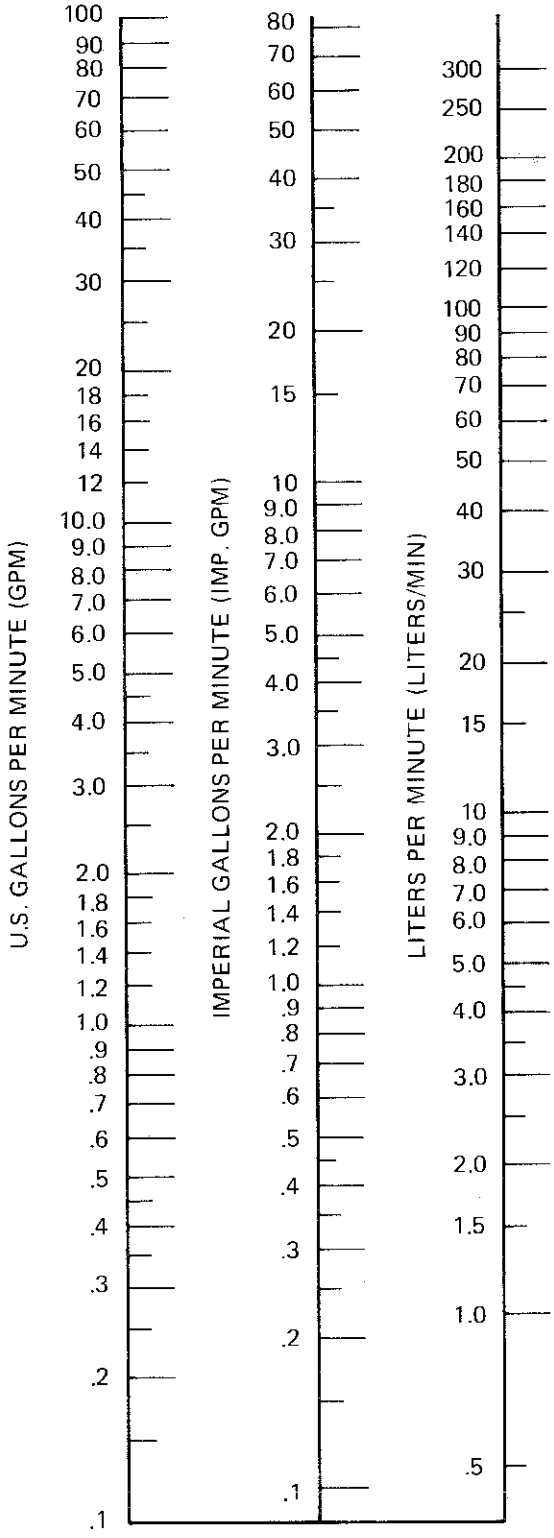
PSI to Kg/sq cm

PRESSURE



GPM to Liters/Min.

FLOW



SECTION III
TRACTOR BODY

This section contains procedures for the repair or replacement of those items peculiar to the tractor body.

• Chassis

The actual hull (chassis) of the tractor is made up of structural components which are welded together to form the upper and lower body levels.
The upper and lower levels are bolted together. This method of assembly ensures a greater terminal rigidity and overall strength than conventional methods of assembly.

• Chassis Components

A. CARGO DECK

Removal of Cargo Deck

1. Brace cargo deck in an open position to provide access to hinge nuts and washers in the engine compartment.
2. Remove nuts, washers, and bolts from each hinge where the hinge is connected to the body of the tractor.
3. Lift Cargo deck clear of tractor.

Replacing Cargo Deck

1. Insert bolts through holes.
2. Brace cargo deck in an open position to allow fitting and tightening of washers and nuts.

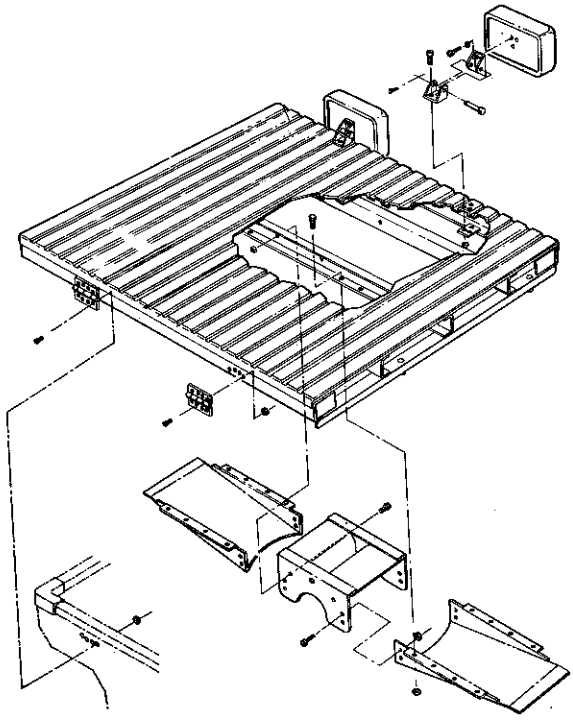


Figure III-1 Cargo Deck

B. FOOT PLATE

Removal of Foot Plate, RH/LH

Remove screws that secure foot plate inboard edge to fuel tank and remaining edges to hull brackets and remove foot plate.

Replacing Foot Plate, RH/LH

Align foot plate on fuel tank and hull brackets. Replace screws and secure.

C. SEAT AND SEAT BACK

Removal of Seat and Seat Back

1. Remove seat by pulling upward to free seat from studs mounted on weldment that forms the mounting for the seat.

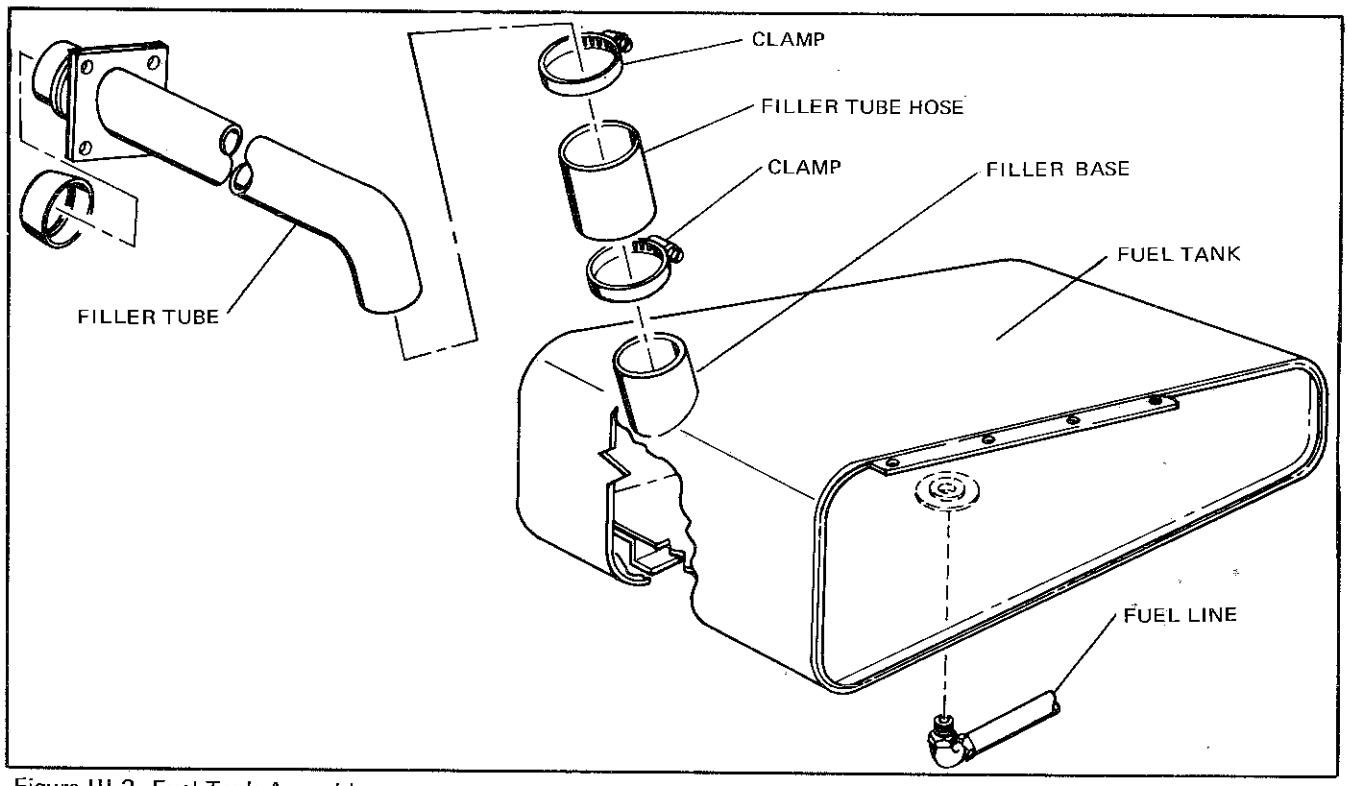


Figure III-2 Fuel Tank Assembly

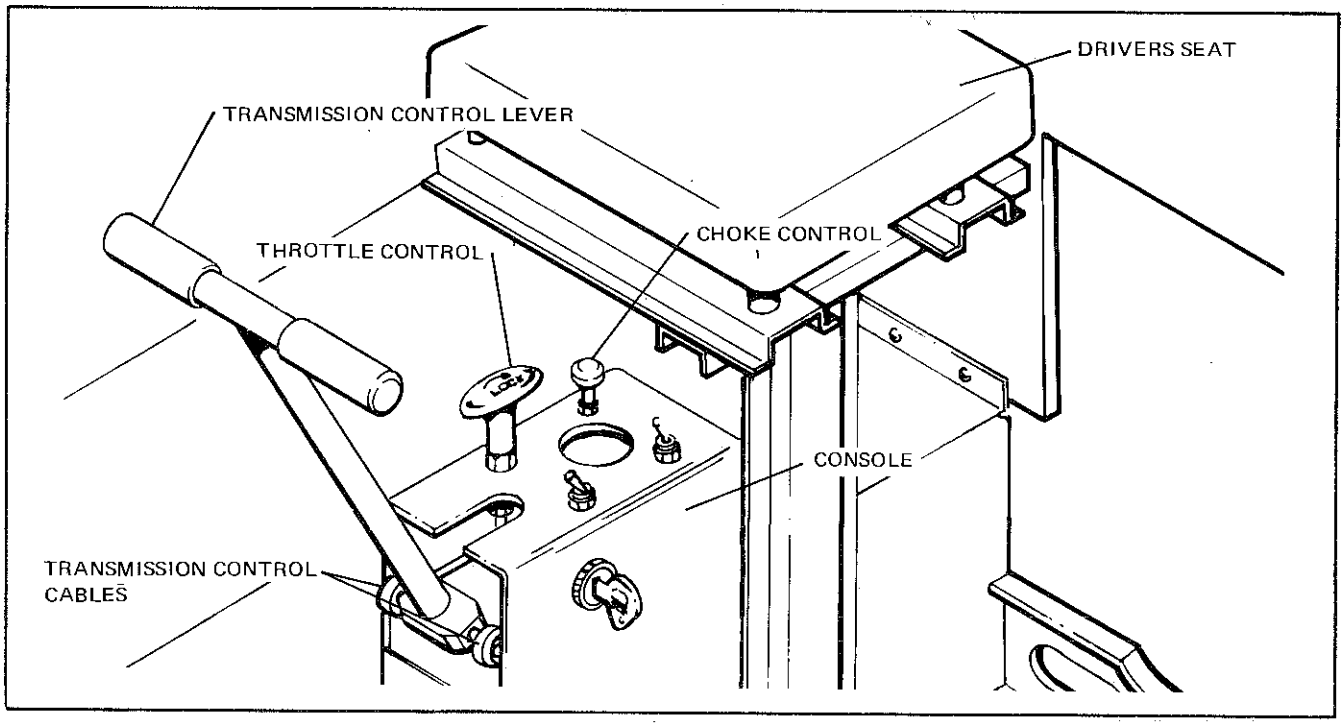


Figure III-3 Control Console

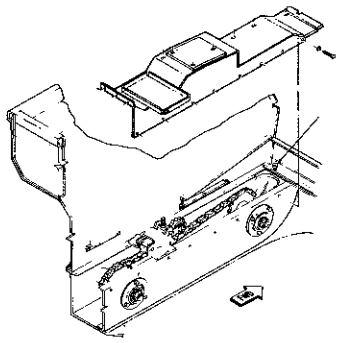


Figure III-4 Left Chain Guard

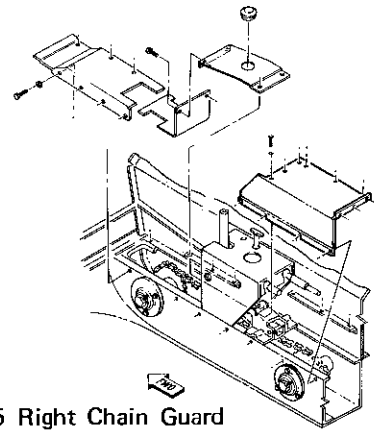


Figure III-5 Right Chain Guard

2. Remove cotter pin from hinge pin and remove seat back from hinge bracket mounted to forward edge of cargo deck.

Replacing Seat and Seat Back.

1. Position seat to align receptacles on under side of seat with studs on seat mounting.
2. Press down firmly.
3. Replace hinge pin through hinge bracket on seat back and hinge bracket on forward edge of cargo deck.
4. Replace cotter pin in hinge pin and secure.

D. FUEL TANK

Removal

1. Remove screws securing foot plates to fuel tank flanges and support brackets on body, remove foot plates.
2. Loosen clamps securing filler tube hose to fuel tank and separate filler tube.
3. Remove fuel tank from vehicle and disconnect fuel line at bottom of tank.

Replacement

1. Secure fuel line to bottom of fuel tank and position fuel tank in hull.
2. Align holes in foot plates with holes in tank flanges and brackets on body.
3. Secure foot plates with screws.
4. Secure filler tube hose to filler tube and secure with expansion clamps.
5. Slide second clamp over filler tube hose and place filler tube over fuel tank tube neck.
6. Secure second clamp at bottom of filler tube base.
7. Secure filler tube at hull with four (4) 1/4-20 hex head screws.
8. Secure fuel line to fuel pump inlet port.

E. CONTROL CONSOLE

Removal

1. Remove driver's seat.
2. Remove choke control and throttle control from console.
3. Disconnect two transmission control cables from transmission control lever.
4. Loosen control cable jam nuts at rear of console and detach cables from console.
5. Disconnect main wiring harness from jack in bulkhead at rear of driver's seat.
6. Disconnect fuel pump lead from left of console.
7. Remove six screws, lockwashers, and nuts securing console to lower hull rail. Remove console assembly.

Replacement

Installation of the control console assembly is the reverse procedure of removal.

F. CHAIN GUARD, RH

Removal

1. Remove driver's seat.
2. Remove foot plate.
3. Remove two screws, lockwashers and flat washer securing seat support channel to hull rail; remove two screws, lockwashers, and nuts securing support to seat mounting channel assembly.
4. Loosen three screws at front of front chain guard.
5. Remove four screws and lockwashers attaching guard to hull rail.
6. Remove three screws and lockwashers securing center chain guard to rear chain guard; remove subassembly of front and center guards.
7. Remove three screws, lockwashers and nuts and disassemble front and center guards.
8. Remove fuel pump from rear chain guard.
9. Remove seven screws and lockwashers securing guard to hull rail and hull chain guard support bracket.
10. Remove three screws and lockwashers securing guard to hull; remove rear chain guard.

Replacement

Installation of chain guards is reverse procedure of disassembly.

G. CHAIN GUARD, LH

Removal

1. Remove battery (see battery removal procedures).
2. Remove self-tapping screws, loosen bolt securing front end of chain guard assembly, and remove chain guard.

Replacement

Reverse of removal