

EH700

STANDARD EQUIPMENT

GENERAL
 ACCU-TRAC suspension system
 All-hydraulic braking
 Allison M5600 transmission
 Automatic transmission shifting
 Battery disconnect switch
 Body down indicator, mechanical
 Body down cushioning
 Body up speed restriction
 Body prop pins
 Canopy spill guard
 Continuous heated body
 Driveline guard, front
 Electric horns
 Electric start
 Electronic hoist
 Engine belt protection
 Fan guard
 Fenders
 Fixed steering stops
 Front brake cut-off switch
 Guard rails
 HID headlights

CAB
 Acoustical lining
 Air conditioning
 Air filtration/replaceable element
 Ash tray
 Cab interior light
 Cigar lighter, 12 volt
 Door locks
 Foot rest (left and right)
 Heater and defroster 26,000 Btu
 Integral ROPS/FOPS cab
 ISO driver envelope
 Liquid Crystal Display* (CONTRONIC II)
 Boost pressure
 Clutch pressure
 Distance traveled
 Engine oil pressure
 Fuel gauge
 Fuel pressure
 Gear selection
 Injector timing rail-pressure
 Intake manifold temperature
 Integrated engine diagnostics
 Integrated transmission diagnostics

GAUGES AND INDICATORS
 CONTRONIC II monitoring and alarm system, multi-function indicator lights:
 Air filter restriction
 Alternator
 Body up
 Brake system low pressure
 Central warning
 Converter temperature
 Coolant level
 Cooling temperature
 Do not shift
 Engine oil pressure
 Engine service
 Engine shut down
 High beam indicator
 Hydraulic filter
 Park brake applied
 Retard oil temperature
 Steering filter
 Steering pressure
 Steering temperature
 Transmission filter
 Transmission malfunction
 Transmission oil pressure
 Turn signals/hazard

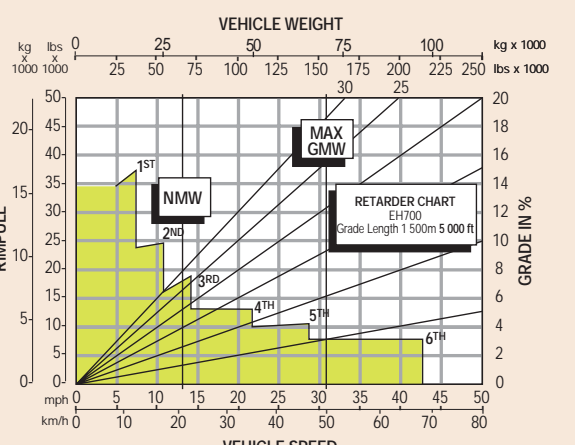
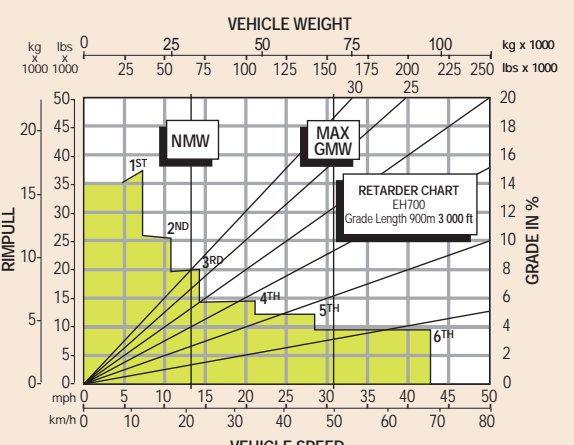
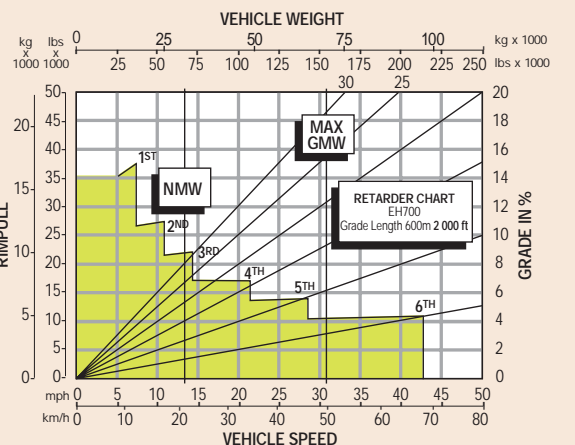
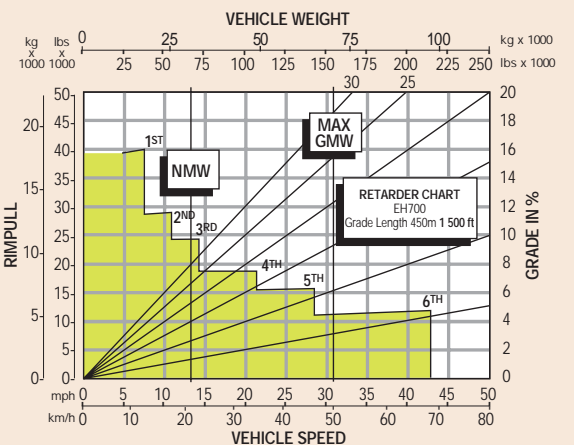
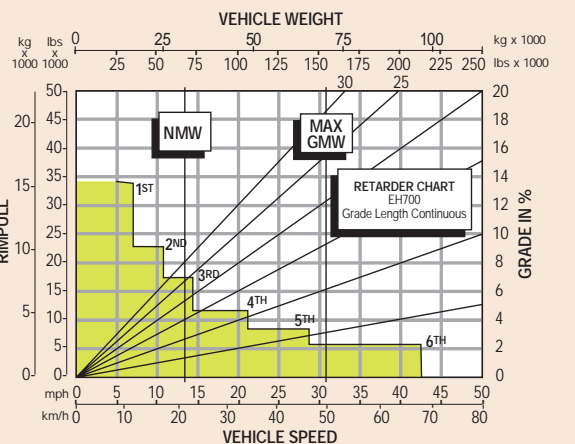
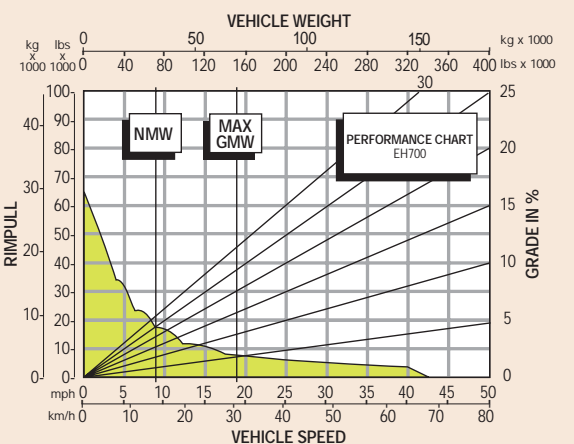
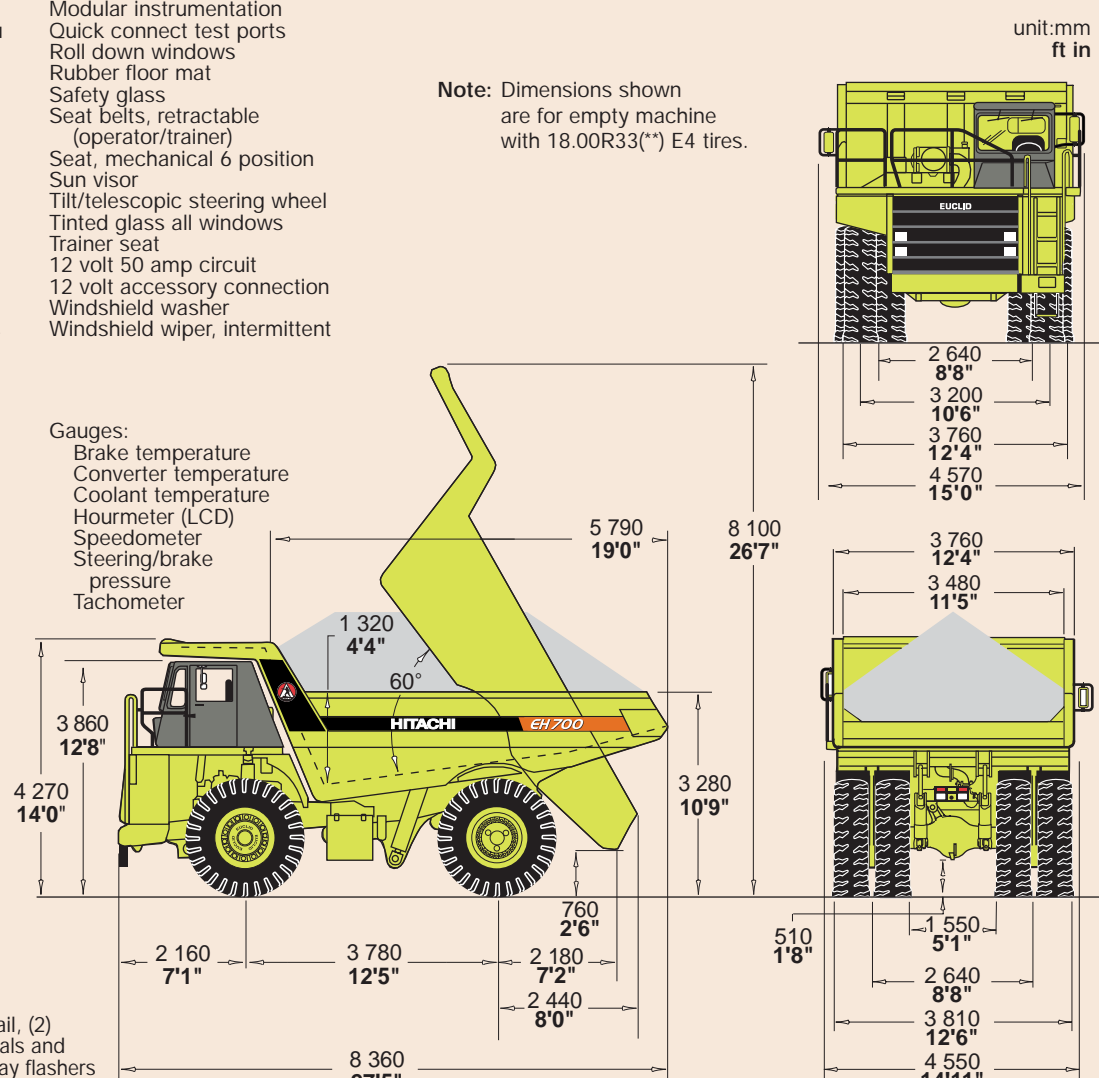
MACHINE LIGHTS
 Back-up light, (2)
 Clearance lights, (2)
 HID headlights, (4)

OPTIONAL EQUIPMENT

Air suspension seat
 ACTIVE TRACTION CONTROL (ATC) w/ELECTRONIC DOWNHILL SPEED CONTROL (EDSC)
 Body liners (400 BHN) plates light or heavy duty
 Body sideboard extensions
 Canopy spill guard extension
 Cold start aid
 Differential, 2.81:1 ratio
 Driveline guard, rear
 Engine compartment lights

Standard and optional equipment may vary from country to country. Special options provided on request. All specifications are subject to change without notice.

Note: Dimensions shown are for empty machine with 18.00R33(**) E4 tires.



INSTRUCTIONS:

- Diagonal lines represent total resistance (Grade % plus rolling resistance %). Charts based on 0% rolling resistance, standard tires and gearing unless otherwise stated.
- Find the total resistance on diagonal lines on right-hand border of performance or retarder chart.
 - Follow the diagonal line downward and intersect the NMW or GMW weight line.
 - From intersection, read horizontally right or left to intersect the performance or retarder curve.
 - Read down for machine speed.

NOTE: Photos and illustrations throughout may show optional equipment. Under our policy of continuous product improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.

Hitachi Construction Machinery Co., Ltd.
 Head Office: 5-1 Koraku 2-chome, Bunkyo-ku, Tokyo 112-8563, Japan
 Telephone: (03)3830-8050
 Facsimile: (03)3830-8202



Maximum Payload
 38.0 m tons (41.9 U.S. tons)

Maximum Payload with Standard Liners
 35.8 m tons (39.4 U.S. tons)

Maximum GMW
 69 854 kg (154 000 lb)

Engine
 Cummins QS19-C525
 Rated Power 392 kW (525 hp)

Specifications: EH700



ENGINE

Make	Cummins		
Model	QSK19-C525		
Type	4 Cycle		
Aspiration	Turbocharged/Aftercooled		
Rated Power (SAE @ 2100 rpm)	kW	hp	392 525
Flywheel Power (SAE @ 2100 rpm)	kW	hp	362 486
No. Cylinders	6		
Bore & Stroke	mm	159 x 159	
	in	6 1/4 x 6 1/4	
Displacement	L	in ³	18.9 1150
Maximum Torque @ 1300 rpm	N•m	lb/ft	2 407 1 775
Torque Rise	30%		
Starting	Electric		



TRANSMISSION

Allison M5610. Planetary type, full automatic shifting. Integral torque converter, with automatic lock-up in all ranges. Remote mounted. Six forward speeds, two reverse. Allison Transmission Commercial Electronic Control (CEC II) shift system. Trim Boost Soft Shift provides smooth shifting to help reduce operator fatigue.

Maximum Speeds @ governed engine speed							
Differential	3.13:1		3.13:1		2.81:1		
Planetary	5.25:1		6.00:1		5.25:1		
Gear	Ratio	km/h	mph	km/h	mph	km/h	mph
1	4.00	11.3	7.0	10.2	6.3	12.6	7.8
2	2.68	16.9	10.5	15.2	9.4	18.8	11.7
3	2.01	22.5	14.0	20.2	12.6	25.0	15.6
4	1.35	33.5	20.8	30.1	18.7	37.3	23.2
5	1.00	45.2	28.1	40.6	25.3	50.3	31.3
6	0.67	68.2	42.5	61.3	38.1	76.0	47.2
R1	5.12	8.9	5.5	8.0	5.0	9.9	6.2
R2	3.46	13.2	8.2	11.9	7.4	14.7	9.1



DRIVE AXLE

Full floating axle shafts, reduction provided by Euclid Model 2052 differential and single reduction planetary with balanced life gearing in each wheel to maximize gear life.

Optional Active Traction Control (ATC) with Electronic Downhill Speed Control (EDSC) available.

Ratios	Standard	Optional	Optional
Differential	3.13:1	3.13:1	2.81:1
Planetary	5.25:1	6.00:1	5.25:1
Total Reduction	16.43:1	18.78:1	14.75:1
Maximum Speeds			
with 18.00R33 Tires	km/h 68.2 mph 42.5	km/h 61.3 mph 38.1	km/h 76.0 mph 47.2



TIRES

Standard – Front and Rear	Rim Width
18.00R33(**)E4 Radial	mm in 330 13
Optional tires, brands and treads available.	



ELECTRICAL SYSTEM

Twenty-four volt lighting and accessories system. 75 amp alternator with integral transistorized voltage regulator. Two 900 amps cold cranking, 12 volt maintenance free heavy duty batteries connected in series.

Standard CONTRONIC II monitoring and central warning system with built-in diagnostics. Standard Liquid Crystal Display.



BODY CAPACITY

	m ³	yd ³
Struck (SAE)	17.0	22.2
Heap 3:1	21.6	28.2
Heap 2:1 (SAE)	23.9	31.2



WEIGHTS

	kg	lb
Chassis with Hoist	24 591	54 212
Body	7 257	16 000
Net Machine Weight	31 848	70 212

Maximum GMW with Std. Tires [18.00R33(**)E4] Including Options, 50% Fuel, Operator & Payload Not to Exceed

	69 854	154 000
--	--------	---------

Maximum Payload

	38 006	83 788
--	--------	--------

Major Options
Approximate change in Net Machine Weight:
Body Liners - complete - 400 BHN Steel

	2 230	4 916
--	-------	-------

Max. Payload with Body Liners, Complete

	35 776	78 872
--	--------	--------

Weight Distribution

	FRONT	REAR
Empty	50.1%	49.9%
Loaded	33.0%	67.0%



STEERING SYSTEM

Closed-center, full-time hydrostatic power steering system using two double-acting cylinders, pressure limit with unload piston pump and brake actuation/steering system reservoir. Accumulator provides supplementary steering in accordance with SAE J1511 and ISO 5010. Tilt/telescopic steering wheel with 35 degrees of tilt and 57,15 mm 2.25" telescopic travel.

	m	ft		
Steering Angle			16.15	42°
Turning Diameter (SAE)			95.8	53.0
Steering Pump Output	L/min	gpm		25.3
System Pressure	kPa	psi	18 961	2 750



HYDRAULIC SYSTEM

Two Euclid two-stage, double-acting cylinders, with cushioning in retraction, inverted and outboard-mounted. Separate Hoist/Brake Cooling reservoir and independent tandem gear pump. Control valve mounted on reservoir.

Body Raise Time	s	11.2	
Body Float Down Time	s	14.0	
Body Power Down Time	s	12.0	
Brake Cooling Pump Output (@ 2100 rpm)	L/min	gpm	200.3 52.9
Hoist Pump Output (@ 2100 rpm)	L/min	gpm	301.3 79.6
System Relief Pressure	kPa	psi	17 237 2 500



BRAKE SYSTEM

Brake system complies with SAE J/ISO 3450.

All-hydraulic actuated braking system provides precise braking control and quick system response. The brake controller has a unique variable front to rear brake proportioning that maximizes the stopping performance under all road conditions.

Service

All-hydraulic actuated front dry disc brakes, and rear wet disc brakes.

Front Axle - Dry Disc

Disc Diameter Each (2 discs/axle)	cm	in	67.3	26.5
Brake Surface Area Per Axle	cm ²	in ²	4 129	640
Lining Area Per Axle	cm ²	in ²	1 394	216
Brake Pressure (Max.)	kPa	psi	15 859	2 300

Rear Axle - Oil-Cooled Wet Discs

Brake Surface Area Per Axle	cm ²	in ²	37 209	5 767
Brake Pressure (Max.)	kPa	psi	8 274	1 200

Optional Increased Capacity

Brake Surface Area Per Axle	cm ²	in ²	49 551	7 680
Brake Pressure (Max.)	kPa	psi	8 274	1 200

Secondary

Two independent circuits within the service brake system provide fully modulated reserve braking capability. System also incorporates automatic application when loss of pressure is detected.

Parking

Dry disc mounted on differential input shaft. Controlled by a toggle switch on the dash. Automatically applied if brake hydraulic pressure is lost.

Size (Diameter)	mm	in	558	22
-----------------	----	----	-----	----

Retarder

Foot-operated valve controls all-hydraulic actuation of oil-cooled wet disc brakes on rear axle. System provides modulated pressure to rear brakes for constant speed control.

Continuous	kW	hp	484	649
Intermittent	kW	hp	969	1 300



WET DISC BRAKE

The Euclid wet disc brake is engineered for long service life even in the most extreme environments. The wet disc brakes are located on the rear axle and provide service braking, secondary braking, and retarding. The brakes are a multi-plate design, and continuously oil-cooled. The sealed design protects against environmental contamination for prolonged service life. The wet disc brake is designed with automatic retraction to prevent drag. Separate pedals activate the service braking and retarding functions.



COMMAND CAB III

COMMAND CAB III

Integral ROPS/FOPS (Rollover Protection Structure) is standard in accordance with SAE J/ISO 3471. Dimensions comply with SAE J/ISO 3411. Double wall construction of 11 gauge inner and outer steel panels, lends itself to a more structurally sound cab. Foam rubber lining material along with foam rubber-backed carpeting and multiple layered floor mat act to absorb sound and control interior temperature. A properly maintained cab from Euclid, tested with doors and windows closed per work cycle procedures in SAE J1166, results in an operator sound exposure Leq (Equivalent Sound Level) of 79 dB(A). A three-point rubber iso-mount arrangement to the deck surface minimizes vibration to the operator compartment.



Excellent Serviceability

A removable front panel allows easy access to service brake valves, retarder valve and heater assembly. The upper dash utilizes four (4) removable panels that house gauges and customer options, each individually accessible. A removable panel located behind the seat provides easy access to the shifting control, CONTRONIC II, and all electrical junction points.

Comfort and Ease of Operation

A wrap-around style dashboard positions controls within easy reach and visual contact. A full complement of easy-to-read gauges, CONTRONIC II monitoring and warning system with Liquid Crystal Display (LCD), a spacious environment, six-way adjustable mechanical seat, tilt/ telescopic steering wheel, filtered ventilation, door locks, and a padded trainer seat, all contribute to operator convenience and comfort.

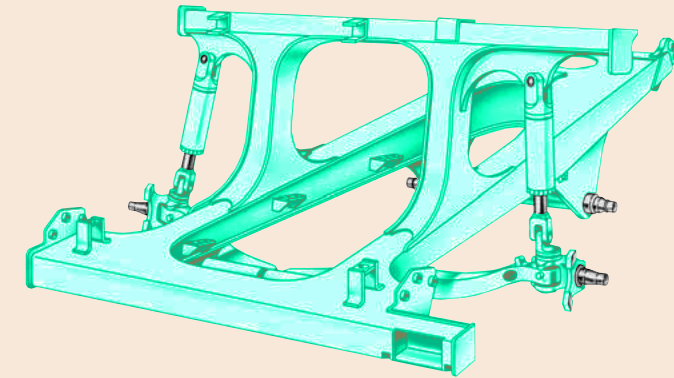


SUSPENSION

Front and Rear Suspension

For years, Euclid haulers have enjoyed an industry-wide reputation for superior suspension systems. That experience and knowledge has now been pushed to the next level, to develop the truly advanced ACCU-TRAC suspension for the EH700. To make sure it was fine tuned to the limit, Lotus Engineering, a world leader in suspension design, was contracted to review the entire system to assure optimized ride and handling performance.

The new ACCU-TRAC suspension system features independent trailing arms for each front wheel with NEOCON struts, containing energy absorbing gas and compressible NEOCON-E™ fluid, mounted between the king pins and the frame. This arrangement allows a wider front track that provides a better ride, improved stability and a reduced turning circle. The rear axle housing has an A-frame mounting. The rear NEOCON struts are mounted in a more vertical position which allows a more pure axial loading and reduces the tractive and braking forces transmitted to the nose cone.



NEOCON struts outperform competitive strut designs by improving isolation, stability, and control. Improved isolation means reduced impact loading on the structural members of the machine and greater operator comfort, resulting in longer equipment life and increased productivity. Improved stability means more consistent dynamic response of the machine to fluctuating load energy, resulting in predictable machine performance. And improved control means better machine maneuverability.

The Euclid frame and ACCU-TRAC suspension system are designed to work in unison to provide maximum structural integrity and operator comfort. The fabricated rectangular frame rail construction provides superior resistance to bending and torsional loads while eliminating unnecessary weight. The unique ACCU-TRAC independent trailing arm suspension absorbs haul road input, minimizing suspension-induced frame twisting while providing independent tire action. NEOCON ride struts are mounted with spherical bushings, eliminating extreme sidewall forces by ensuring a purely axial input to the ride strut. The wide track stance of the ACCU-TRAC suspension system and the long wheel base assure a more stable, comfortable ride.



FRAME

Full fabricated box section main rails with section height tapered from rear to front. Wider at the rear to support the loads and narrower at the front to allow for engine accessibility. One piece top and bottom flanges that eliminate cross member tie in joints and provide a large exposed center area for access to major components. Large radii at frame junctions are blended and ground to minimize stress concentrations. Weld joints are oriented longitudinally to the principal flow of stress for greater durability and more strength. Frame utilizes 345 MPa 50,000 psi yield high strength low alloy steel that is robotically welded to ensure consistently high quality welds.

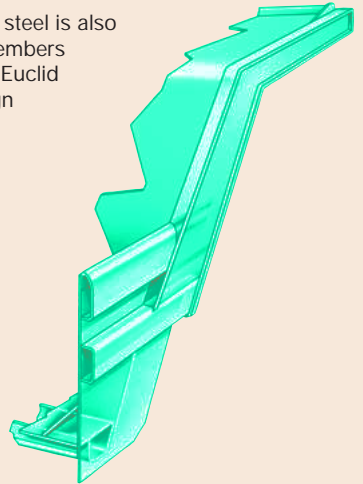


BODY

Body is a flat floor, sloped tailshoot type. It is rubber cushioned and continuously exhaust-heated. High tensile strength 400 BHN abrasion-resistant alloy steel is used in thickness of:

	mm	in
Floor	16	0.63
Front	8	0.31
Sides	8	0.31
Canopy	5	0.20
Body Liners, Complete		
Floor & Corners	10	0.39
Side, front, end protection	6	0.24
Top rails	10	0.39

High yield strength alloy steel is also used for canopy side members and floor stiffeners. The Euclid horizontal stiffener design minimizes stress concentrations. Load shocks are dissipated over the entire body length. Closely spaced stiffeners provide additional protection by minimizing distances between unsupported areas.



SERVICE CAPACITIES

	L	U.S.gal
Crankcase (includes filters)	61.0	16.0
Transmission	70.0	18.5
Cooling System	159.0	42.0
Fuel Tank	454.2	120.0
Hydraulics		
Hoist System	159.0	42.0
Steering System	90.8	24.0
Drive Axle	50.3	13.1
Windshield Washers	5.7	1.5