

STEIGER
Service Manual
Cougar CR/KR and Panther CP/KP
P/N 37-190

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Safety Suggestions

The manufacturer, dealer and/or agent can not anticipate every possible circumstance that might involve potential hazard. The Warnings, Cautions and Safety Suggestions in this manual are therefore not all inclusive. If an operating procedure, tool device, maintenance or work method not specifically recommended is used, you must also ensure that the product will not be damaged or made unsafe by the procedures you choose.



Whenever you see this symbol, it means Attention! Become Alert! Your safety is involved.

- **Always** observe and heed all caution and warning signs or other decals wherever they may appear.
- **Always** install the locking bar between the front and rear frames whenever possible -
 - A. Before service work is done near center of tractor
 - B. Before lifting or transporting the tractor on another vehicle
 - C. Before operating stationary PTO driven equipment
- **Never** perform any service or maintenance in the center hinge area of a 4 wheel-drive articulated tractor unless the engine is shut off and the switch key removed.
- **Never** clean, service or adjust the tractor or any equipment operated by it until the tractor engine is shut down and all machine motion is stopped, unless specific instructions are given for a particular repair or procedure.
- **Always** direct compressed air away from the body and towards a safe area. Use only an approved air nozzle and wear adequate eye protection.
- **Always** keep hand tools in good condition and proper working order. Replace any that are damaged.
- **Always** have electrical equipment and cords serviced and/or inspected periodically. Use only properly grounded electrical equipment.
- **Always** keep shop floors dry and clean to prevent falls of people and/or equipment.
- **Always** weld and/or grind only in safe areas away from any flammable or explosive materials.
- **Always** read the operation instructions and understand the proper use of test equipment or other special tooling.
- **Always** inspect all lift tie chains and/or slings periodically, replace any that show signs of damage.
- **Always** use a rated alloy chain for lifting or a sling of a size and type adequate for the intended usage.
- **Always** relieve all pressure in air, oil or water systems before any lines, fittings or related items are disconnected or removed. Be alert for possible fluid pressure or spring force when disconnecting or repairing any device from a system that utilizes fluid pressure or spring force.
- **Always** reinstall all fasteners with the same part number. **Do not** use a lesser quality fastener if replacements are necessary.
- **Always** wear eye protection when charging, boosting or performing other services to or around batteries.
- **Never** spin or rotate bearings with compressed air.
- **Never** attempt to lift or jack an object that exceeds the weight capacity of the lifting fixture (jack, hoist, fork lift etc.).
- **Never** wear loose fitting clothing around rotating shafts or machinery. Long hair should always be netted.
- **Do not** try to locate high pressure fluid leaks with your hands. Use cardboard or wood to search for suspected leaks. High pressure fluid escaping from a very small area can be nearly invisible. If injured by high pressure fluid, seek immediate medical attention. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
- **Do not** use unguarded grinding tools or other power tools requiring a guard. Wear safety glasses and safety shoes whenever they may be required.

- **Do not** attempt to separate or disassemble hydraulic cylinders with the use of compressed air or hydraulic pressure.
- **Do not** attempt tire repairs unless you have the proper equipment and know how to perform the repair correctly and safely.
- **Do not** work on anything that is supported only by lift jacks or a hoist. **Always** use adequate blocks or proper stands to support the product before performing any service work.
- Use **only** approved cleaning solvents. **Never** use gasoline or other flammable or explosive materials for cleaning.
- Report or correct any unsafe areas or practices immediately.
- **Before** doing any electrical work, disconnect the battery. Do not damage wiring during removal operations. Reinstall the wiring so it is not damaged nor will it be damaged in operation by contacting sharp corners, or by rubbing against objects or sharp corner.
- If guards or shields must be removed to perform the repair or service, use extra caution. After the repair is completed, be sure to reinstall any guard or shield that was removed.

These are a few of the most common causes of personal injuries. There are a great many more and shops are continually finding accidents happening that they never heard of before.

The only known way to reduce personal injury, is to teach and practice **Safety First**.

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General Specifications

Panther 1000 Series Tractors

Axles

General Specifications

Model: S-40 (CP & KP 1325-1360)

Type: Single Planetary Drive Wheel Hubs, Spiral Bevel Ring Gear and Pinion

Ratio: 25.59:1

Options: No-Spin Differential - Front only

Oil Capacity: Center Differential - 22 qts (20.8L)

Wheel Hubs - 5 qts (5.76) each

Model: K594 00/10 (CP & KP 1400)

Type: Inboard and Outboard Planetary Gearing, Spiral Bevel Ring Gear and Pinion

Ratio: 26.12:1

Options: No-Spin Differential - Front only

Oil Capacity: Center Differential - 40 qts (38.0L)

Wheel Hubs - 8.5 qts (8.0L) each

Model: K598 60/70

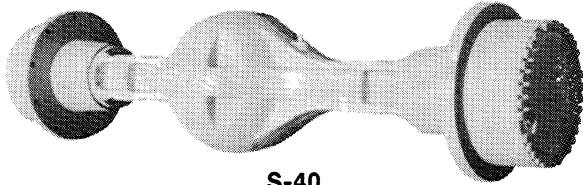
Type: Dual Outboard Planetary Gearing, Spiral Bevel Ring Gear and Pinion

Oil Capacity: Center Differential - 15.0 US qts (14.4L)

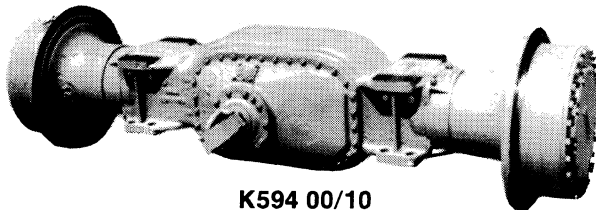
Wheel Hubs - 3.7 US qts (3.5L) each

Oil Type: Steiger HD API-GL-5 80W-90 gear oil, or other oils that meet the API service classification, GL-5 and/or MIL-L-2105B specifications

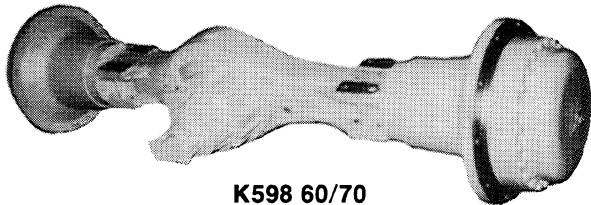
NOTE: In general 80W-90 is the recommended oil, however, SAE90 is acceptable as an alternative. Axle assemblies are flow-through design; oil is allowed to flow between compartments. Always park the tractor on a level surface when checking fluid levels.



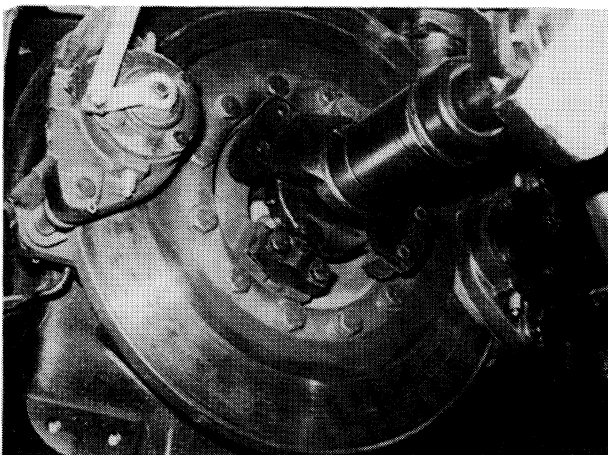
S-40



K594 00/10



K598 60/70



Brakes

General Specifications

Type: Self-Adjusting Dual Caliper, Single Disc

Disc Size: Diameter - 20 in (50.8 cm)

Thickness - .75 in (1.9 cm)

Mounting: Transmission lower front output yoke

Park Brake: Integral with one of two service calipers - self-adjusting, hand lever operated

Master Cylinder: Dual Stage

Fluid Type: SAE-J1703D

Fluid Capacity: 1 qt (0.946L)

General Specifications

Cab

General Specifications

ROPS: Certified to OSHA-29CFR Subpart C to 44,000 lb (19, 976 Kg)

Mounting: Rubber Isolator

Glass: Tinted-All

Door: Left Side

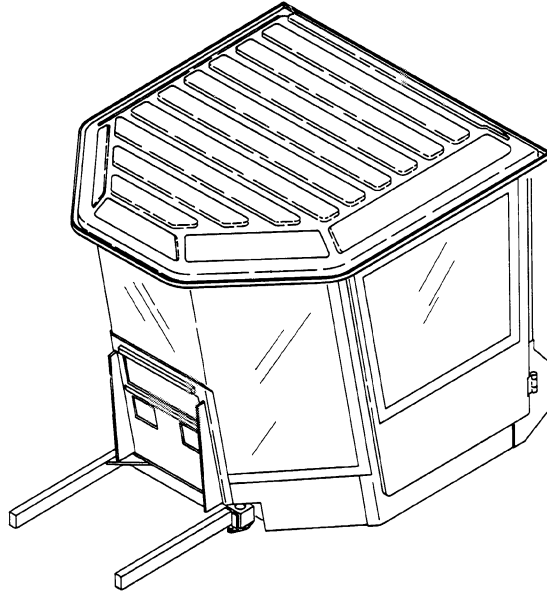
Seat: Deluxe, fabric covered cushion, infinite adjustability

Radio: AM/FM Stereo

Steering Wheel: Tilt/Telescoping

Instruments: Engine Coolant Temp, Engine Oil Press., Fuel Gauge, Voltmeter, Hourmeter and TPH LCD (Liquid Crystal Display) located vertically along the right front ROPS post. In addition; the dash houses 4 Liquid Crystal Displays (LCD) for MPH, Engine RPM, PTO RPM and Transmission Gear Range. Also, 20 indicator lights divided into three categories: Critical (Red), Non-Critical (Amber) and Information Functions. All instruments and LCD displays backlighted.

Climate Control: Automatic-Electronically controlled cab pressurization, A/C and Heating



Electrical

General Specifications

Type: Parallel 12 volt, negative ground

Batteries: Three (four optional) 625 CAA each @ 0°F (-16°C) maintenance free

Alternator: 135 amp brushless and oil cooled

Starter: 12 volt negative ground, solenoid activated, positive engagement

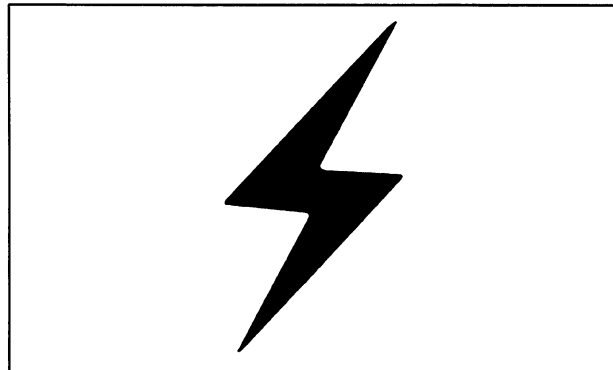
Lighting: 12 Halogen lights, 6 front and 6 rear. 2 tail/stop lights rear. 4 front and 2 rear combination light and reflectors. Safety flashers and turn lights. Rear remote electrical receptacle, 2 cab interior lights.

Circuit Breakers: Automatic reset type

Tractor Monitor System: Audio warning alarm through radio speakers for both critical and non-critical functions

Hour Meter: RPM Actuated (100 RPM)

Function Control Center: Controls and/or monitors functions of transmission shifting, cab pressurization, A/C, heating and ventilation, TPH system, MPH engine, PTO RPM (R/min), Vehicle Warning System.



General Specifications

Engines

Tractor Model	CP-1325	KP-1325	CP-1360	KP-1360	CP-1400	KP-1400
Engine	Caterpillar	Cummins	Caterpillar	Cummins	Caterpillar	Cummins
Model	3406DIT	855NTA	3406DITA	855NTA	3406DITA	855NTA
Type	In-Line 6	In-Line 6	In-Line 6	In-Line 6	In-Line 6	In-Line 6
Displacement	893 Cu in. (14.6L)	855 Cu in. (14.0L)	893 Cu in. (14.6L)	855 Cu in. (14.0L)	893 Cu in. (14.6L)	855 Cu in. (14.0L)
Rated Horsepower	325 (242Kw)	325 (242Kw)	360 (268Kw)	360 (268Kw)	400 (298Kw)	400 (298Kw)
Turbo Charged	Yes	Yes	Yes	Yes	Yes	Yes
After Cooled	No	Yes	Yes	Yes	Yes	Yes
Rated RPM (R/Min)	2100	2100	2100	2100	2100	2100
Low Idle RPM	875 ± 25	875 ± 25	875 ± 25	875 ± 25	875 ± 25	875 ± 25
High Idle RPM (App)	2300	2300	2300	2300	2300	2300
Bore & Stroke	5.4 x 6.5 in. (132 x 165 mm)	5.5 x 6.0 in. (140 x 152 mm)	5.4 x 6.5 in. (137 x 165 mm)	5.5 x 6.0 in. (140 x 152 mm)	5.4 x 6.5 in. (137 x 165 mm)	5.5 x 6.0 in. (140 x 152 mm)
Compression Ratio	14.5 to 1	14.3 to 1	14.5 to 1	14.3 to 1	14.5 to 1	14.3 to 1
Peak Torque	1050 lb ft (1376 N.m) @1200 rpm	1080 lb ft (1464 N.m) @1400 rpm	1175 lb ft (1518 N.m) @1200 rpm	1200 lb ft (1627 N.m) @1400 rpm	1265 lb ft (1632 N.m) @1200 rpm	1200 lb ft (1627 N.m) @1400 rpm
Operating Torque @2100 RPM	815 lb ft (1102 N.m)	810 lb ft (1093 N.m)	903 lb ft (1224 N.m)	900 lb ft (1220 N.m)	1000 lb ft (1356 N.m)	1000 lb ft (1356 N.m)
Torque Rise	28.8%	32.5%	30.5%	33.3%	26.5%	20%
Oil Capacity	9 gal. (US) (34.0L)	10.5 gal. (US) (39.8L)	9 gal. (US) (34.0L)	10.5 gal. (US) (39.8L)	9 gal. (US) (34.0L)	10.5 gal. (US) (39.8L)
Engine Oil Filter P/N	01-2335	01-2187(1) 90-1158T1 (By-Pass)	01-2335	01-2187(1) 90-1158T1 (By-Pass)	01-2335	01-2187(1) 90-1158T1 (By-Pass)
Water Filter Element Pre-Charge	01-7834	01-7834	01-7834	01-7834	01-7834	01-7834
Water Filter Element Service	28-031	28-031	28-031	28-031	28-031	28-031
Coolant Capacity	17.6 gal. (US) (66.8L)	16.5 gal. (US) (62.5L)	20.3 gal. (US) (76.8L)	16.5 gal. (US) (62.5L)	20.3 gal. (US) (76.8L)	16.5 gal. (US) (62.5L)
Fuel Filter P/N	01-2336(P) 01-2334(S)	28-035(2)	01-2336(P) 01-2334(S)	28-035(2)	01-2336(P) 01-2334(S)	28-035(2)
Air Cleaner Filter P/N	45-252(P) 45-253(S)	45-252(P) 45-253(S)	45-252(P) 45-253(S)	45-252(P) 45-253(S)	45-252(P) 45-253(S)	45-252(P) 45-253(S)
Belts:						
A/C Comp	01-2820	01-6864	01-2820	01-6864	01-2820	01-6864
Alternator	01-6908(2)	90-1375	01-6908(2)	90-1375	01-6908(2)	90-1375
Fan	90-1163T1	02-4432T1	90-1163T1	02-4432T1	90-1163T1	02-4432T1
Water Pump	N/R	90-2383T1	N/R	90-2383T1	N/R	90-2383T1

Lubrication Specifications: (Cat)

Oil type: API Class CD or MIL-L-2104C

Oil Viscosity: Temperature Range

SAE Grade	Min. °F	Max °F
10W	-10	+70
*10W/30	-10	+100
*15W/40	+5	+120
30	+20	+100
40	+45	+120

*CD qualified multi-viscosity oils are preferred.

NOTE: Factory fill oil is 15W-40

Lubrication Specifications: (Cummins)

Oil type: Heavy Duty API Class CD or CC/CD

Oil Viscosity:

SAE Viscosity Grade*	Ambient Temperature*
Recommended	
10W-30	-13°F to 95°F (-25°C to 35°C)
15W-40	14°F and above (-10°C & above)
20W-40	32°F and above (0°C & above)

*SAE-5W mineral oils should not be used.

NOTE: Factory fill oil is 15W-40.

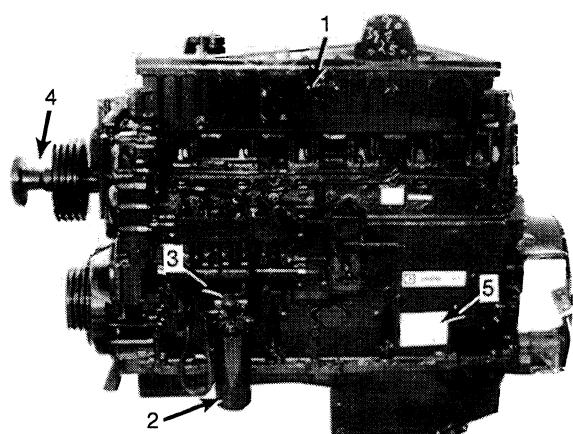
General Specifications

Caterpillar 3406 Engines (S/N 3001 & Up) General Information

Effective with the above tractor serial number, all Panther 1000 "CP" model tractors are equipped with the new production Caterpillar 3406 "B" generation engines. The specifications and operational information for the new "B" generation engine remain the same as for the early production engine described within this manual. The major difference between the new "B" generation 3406 engine and the early engine is a new design scroll fuel system. Because of this other engine components are also

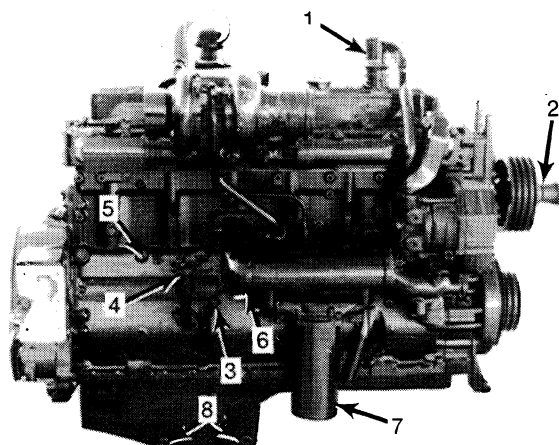
located differently on this new generation engine from those shown pictorially within this manual. Also this new generation engine does not require a fan idler pulley. Specifications and capacities are the same as listed for the former 3406 shown on the chart.

Refer to Fig. 1 for engine "left" side component locations. Refer to Fig. 2 for engine "right" side component locations.



- | | |
|--------------------|---------------------|
| 1-Water Filter | 4-Fan Hub |
| 2-Fuel Filter | 5-Engine Data Plate |
| 3-Fuel Primer Pump | |

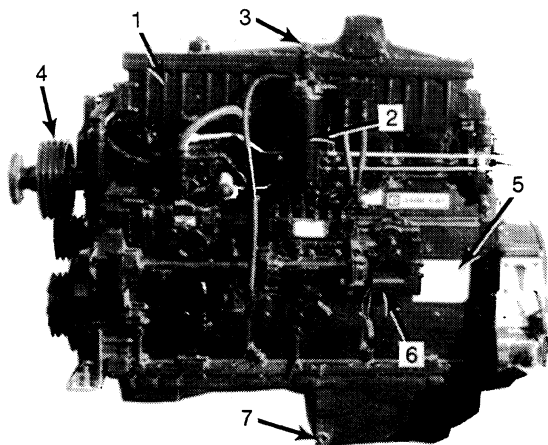
Figure 1: Engine Left Side



- | | |
|--------------------|----------------------|
| 1-Crankcase Vent | 5-Engine Block Drain |
| 2-Fan Hub | 6-Oil Cooler Drain |
| 3-Oil Level Filter | 7-Oil Filter |
| 4-Oil Fill | 8-Crankcase Drain |

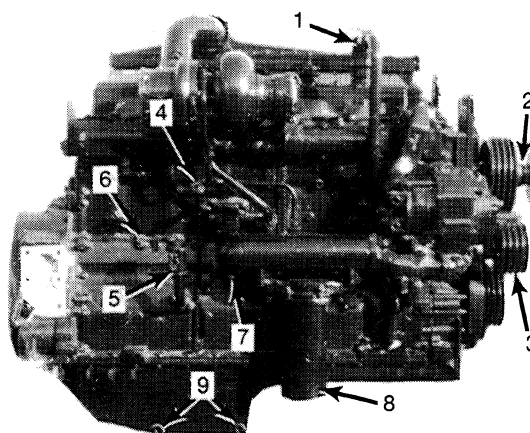
Figure 2: Engine Right Side

3406 Engine(s) Caterpillar S/N 3000 & below



Engine Left Side

- | | |
|--------------------|--------------------------|
| 1-Water Filter | 5-Engine Data Plate |
| 2-Fuel Filter | 6-Fuel Shut-Off Solenoid |
| 3-Fuel Primer Pump | 7-Crankcase Drain |
| 4-Fan Hub | |

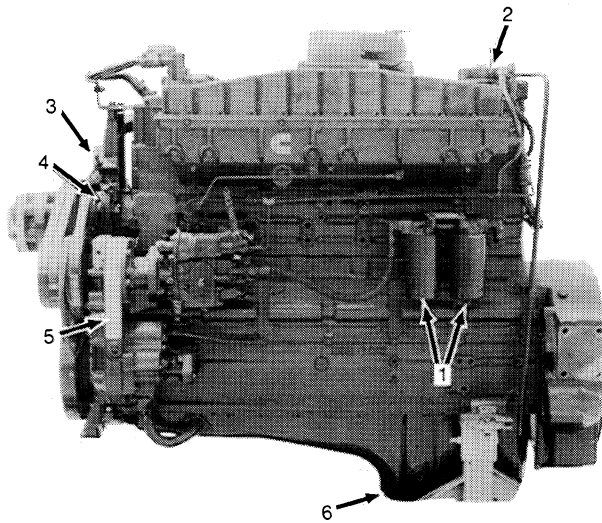


Engine Right Side

- | | |
|-------------------|----------------------|
| 1-Crankcase Vent | 6-Engine Block Drain |
| 2-Fan Hub | 7-Oil Cooler Drain |
| 3-Idler Puller | 8-Oil Filter |
| 4-Oil Level Check | 9-Crankcase Drain |
| 5-Oil Fill | |

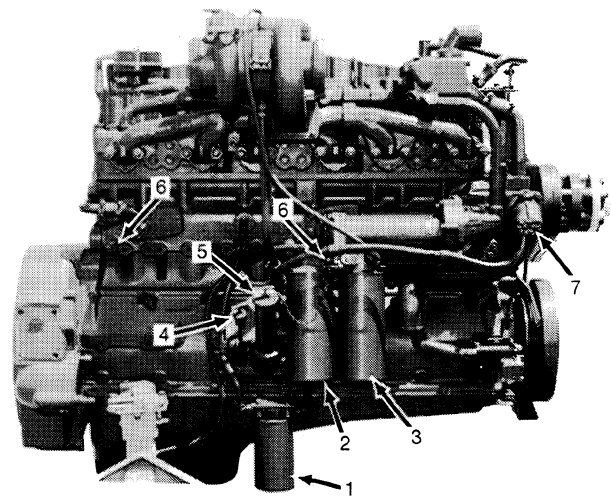
General Specifications

Engine(s) Cummins



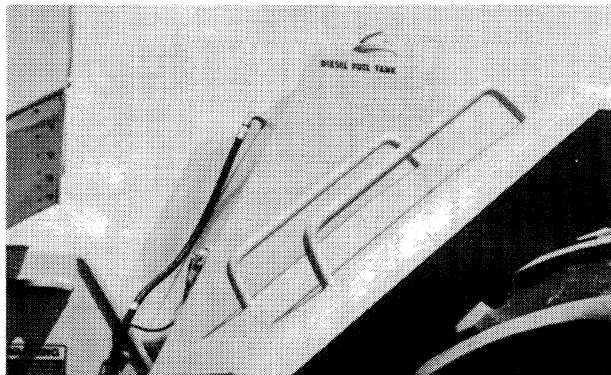
Engine Left Side

- | | |
|------------------|--------------|
| 1-Fuel Filters | 4-Water Pump |
| 2-Crankcase Vent | 5-Data Plate |
| 3-Fan Belt Adj. | 6-Oil Drain |



Engine Right Side

- | | |
|------------------------|----------------------|
| 1-Water Filter | 5-Oil Fill Port |
| 2-By-Pass Oil Filter | 6-Coolant Drain |
| 3-Full Flow Oil Filter | 7-Water Filter Valve |
| 4-Dipstick | |



Fuel System

General Specifications

Capacity: 236 gal. (US) (894L) Std Frame - 205 gal. (US) (777L) PTO Frame

Fuel Type: Use either Grade No. 1D or Grade No. 2D fuel as defined by ASTM designation D975 for Diesel Fuels. Use No. 2D when ambient temperatures are consistently above 32°F (0°C).

General Specifications

Hydraulic System

General Specifications

Type: Closed Center, Load Sensing and Pressure Compensating

Reservoir Capacity: (25 gal. (US) (113.7L)

Steering: Articulated, Load Sensing Hydrostatic with 2 double acting cylinders

Remote Control Valve: Closed center, stack type construction. Detented in the working positions with hydraulic kick outs. Individual section flow control from 3-25 gpm (11.4 - 94.8L).

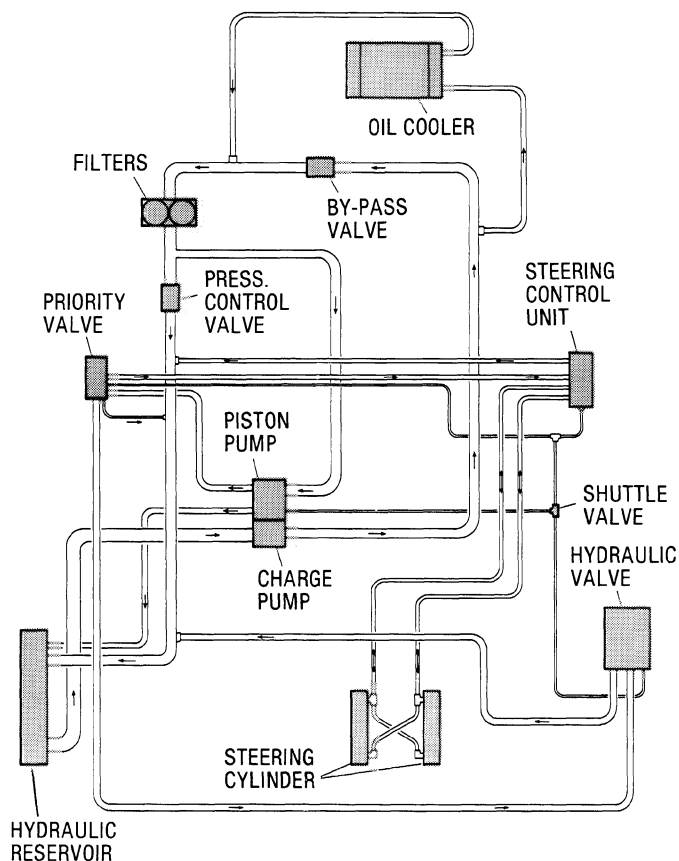
System Operating Pressure: 2500 psi (172.4 bar) maximum

Low Pressure Standby: 300 psi (20.6 bar)

Pump Capacity: 44 gpm (166.8 Lpm) rated rpm

Filter(s): Steiger P/N 50-1911T91(2)

Oil Type: Steiger Hydraulic/Transmission Fluid or 10W hydraulic fluid



Transmission

General Specifications

Type: PowerPulse

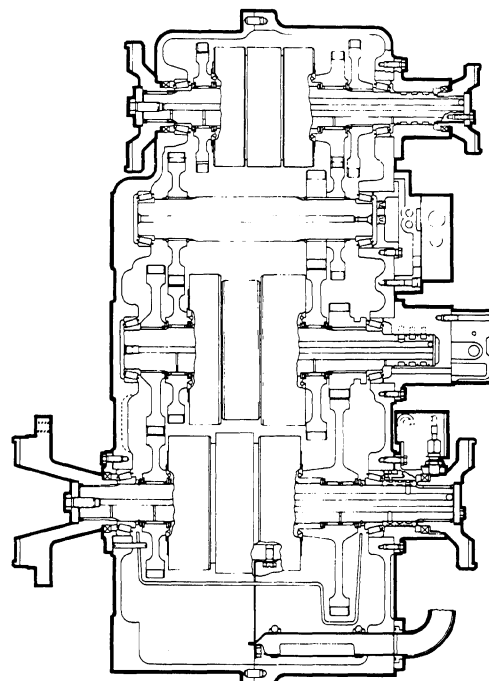
Model: TD-124-1402

Speeds: 12 forward, 2 reverse

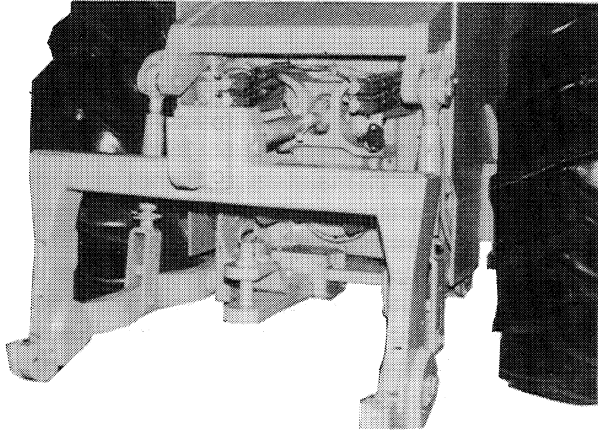
Oil Type: Steiger Hydraulic/Transmission oil, C-3 Transmission Fluid or SAE API Class CD engine oil certified to meet TO-2 transmission oil specifications. Where viscosity must be specified, use SAE 10W. DO NOT use multi-viscosity oils.

Oil Capacity: 10 gal. (US) (37.9L) approx w/o PTO. 13.75 gal. (US) (52L) with PTO

Filter Element: Steiger P/N 02-2038



General Specifications



3-Point Hitch (Optional)

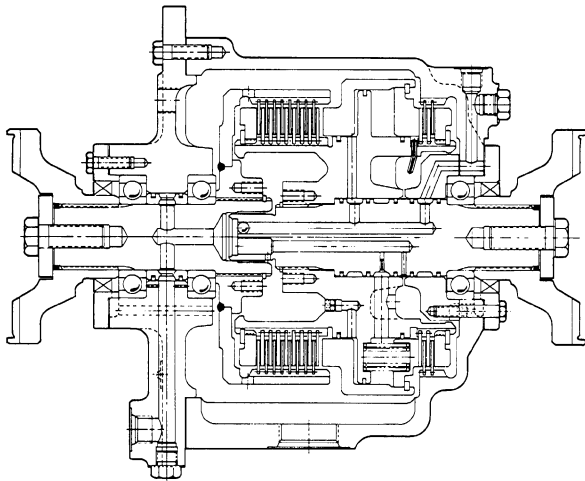
General Specifications

Type: Category IV and Category IV N Free-Link Hitch - meets or exceeds SAE J715 standards

Quick-Coupler: Category IV or Category IV N meets or exceeds SAE J909b standards

Conversion Kit: P/N 35-1376T91 to convert the category IV N Quick-Coupler to a Category III. (Purchased Separately)

Position Control: Electro/Hydraulic (Digital Display)



PTO System (Optional)

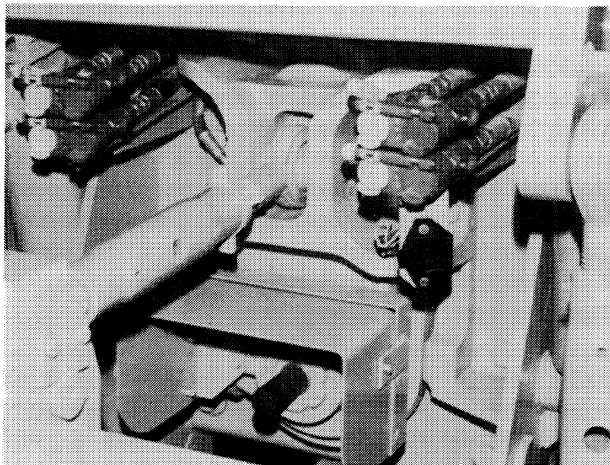
General Specifications

Type: Hydraulically operated wet clutch, with integral spring applied brake when control pressure is shut off

Mounting: Tractor Center Hinge

Control: Cable actuated from cab

Lubrication: Lubrication/Cooling integral with transmission



PTO Transfer Case (Optional)

General Specifications

Output: Full Engine Power @1000 rpm (R/min)

Type: Spur Gear, supported on shafts by tapered roller bearings

Output Shaft: 1.75 in. (4.45 cm) 20 spline

Lubrication: Lubrication/Cooling integral with PTO wet clutch and transmission only when PTO wet clutch is engaged

General Specifications

Shipping Weights

CP & KP - 1325: 28,330 lb (12,862 Kg) with 20.8 x 38 w/spacer band style duals, less fuel, operator or optional equipment.

CP & KP - 1360: 31,732 lb (14,406 Kg) with 23.1 x 34 w/rim style duals, less fuel, operator or optional equipment.

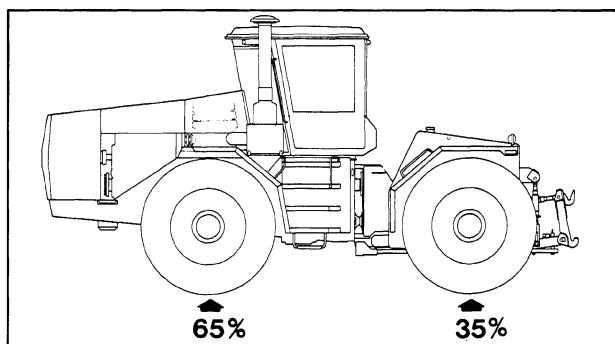
CP & KP - 1400: 35,802 lb (16,254 Kg) with 24.5 x 32 w/rim style duals, less fuel, operator or optional equipment.

Maximum Warranted Weights

CP & KP - 1325: 36,000 lb (16,344 Kg)

CP & KP - 1360: 40,000 lb (18,160 Kg)

CP & KP - 1400: 44,000 lb (19,976 Kg)



Ballast Information

There may be times when it is desirable to weight the tractor to decrease slippage and increase stability.

There are many factors that affect traction and balance that need to be considered before adding liquid ballast; such as soil conditions and/or topography, draft load of the implement or equipment being used etc.

Desirable tractor weight distribution is approximately 35 percent of the weight on the rear axle and 65 percent of the weight on the front axle. If it becomes necessary to add liquid ballast for better traction or stability, this ratio must be maintained in all drawbar applications. When dual wheels are used DO NOT add liquid ballast to the outside "Spacer Band" style dual tires.

Desirable wheel slippage should be 10-15 percent in average conditions. This slippage rate is important in order to gain the optimum tire and power train life.

If liquid ballast is required, ballast to 65-35 percent, which will result in approximately 50 percent weight distribution under load. For example: if 4000 pounds of weight is to be added, the 65-35 percent static weight ratio must be maintained. Do not exceed the maximum warranted vehicle gross weight for agriculture or continuous duty drawbar usage.

When using liquid ballast, use a solution of water and calcium chloride to prevent water from freezing. A mixture of 3.5 lbs (1.59 Kg) of calcium chloride per gallon (0.4 Kg per liter) will provide slush free protection to -12°F (-24°C).

Utility blades and other mounted equipment must be considered as ballast. Because of this, to maintain stability and balance, specific ballast instructions must be followed. Liquid ballast should always be removed when not required, if liquid ballast is required, it must always be used in the proper ratio for the intended application and should be avoided in outside dual tires. Never exceed the maximum warranted vehicle gross weight listed.

Front Ballast

When semi-mounted attachments are used it may be desirable to add liquid ballast to the front tires to maintain stability and balance. Do not add ballast to the rear tires when using semi-mounted attachments.

Fill the front inside tires to the required level to maintain stability and balance before ballasting the outer tires. DO NOT add liquid ballast to the outside dual tires when "Spacer Band" style duals are used. Outside dual tire ballast is permissible only on "Rim" bolted style duals.

IMPORTANT: Combined static weight of the tractor and front ballast must not exceed maximum vehicle gross warranted weight.

Rear Ballast

When using front mounted utility blades or other attachments it will usually be required to add liquid ballast to the rear tires to improve stability and balance. Fill the rear inside tires to the level required to achieve approximately 50 percent of the total static weight on each axle.

Combined static weight of the tractor with front attachment and rear ballast must not exceed the maximum vehicle gross warranted weight.

General Specifications

Tire Inflation

Tires should be inflated according to size, ground conditions, ballast and other variable conditions.

Check the tire pressure cold with an accurate tire gauge having 1 psi (0.01 bar) graduations. If tires

contain liquid ballast, position the valve stem at the bottom and use a special air-water gauge.

Operate a new unit or newly-mounted tires for thirty (30) minutes under light loads to allow them to "seat" in on the rim.

RECOMMENDED TIRE LOADS AND INFLATIONS

Tire Load Limits at cold inflation pressure
at 20 mph (16.1 kph) Maximum speed

Model (Engine HP)	Tire Type (Ply)	Single -Duals	Tire Maximum Load/ Rated PSI (Kg)	Recommended *Maximum Ballasted Tractor Weight	**PSI (bar)	Max. **PSI (bar)
CP&KP 325	30.5L-32 LS-2 (12)	Single	10,390# @ 20 (4717)	36,000	20 (1.4)	20 (1.4)
	35.5L-32 R-1, LS-2 (16)	Single	15,100# @ 22 (6855)	36,000	20 (1.4)	22 (1.5)
	20.8-38 R-1 (8)	Duals	6,000# @ 18 (2742)	36,000	16, 14 (1.1) (0.96)	18, 16 (1.2) (1.1)
	20.8-38 R-1,R-2 (10)	Duals	6,750# @ 22 (3065)	36,000	16, 14 (1.1) (0.96)	22, 20 (1.5) (1.4)
	23.1-34 R-1,R-2 (8)	Duals	6,260# @ 16 (2842)	36,000	14, 12 (0.96) (0.82)	16, 14 (1.1) (0.96)
	24.5-32 R-1 (10)	Duals	7,660# @ 20 (3478)	36,000	14, 12 (0.96) (0.92)	20, 18 (1.4) (1.2)
	24.5R32 R-1 (10)	Duals	8,520# @ 24 (3868)	36,000	14, 12 (0.96) (0.82)	24, 22 (1.6) (1.5)
CP&KP 360	35.5L-32 R-1,LS2 (16)	Single	15,100# @ 22 (6855)	40,000	20 (1.4)	22 (1.5)
	23.1-34 R-1,R-2 (8)	Duals	6,260# @ 16 (2842)	40,000	16, 14 (1.1) (0.96)	16, 14 (1.1) (0.96)
	24.5-32 R-1 (10)	Duals	7,660# @ 20 (3478)	40,000	14, 12 (0.96) (0.82)	20, 18 (1.4) (1.2)
	24.5R32 R-1 (10)	Duals	8,520# @ 24 (3868)	40,000	14, 12 (0.96) (0.82)	24, 20 (1.6) (1.4)
	24.5-32 LS2 (12)	Duals				
CP&KP 400	35.5L-32 R-1,LS2 (16)	Single	15,100# @ 22 (6855)	44,000	20 (1.4)	22 (1.5)
	24.5-32 R-1 (10)	Duals	7,660# @ 20 (3478)	44,000	17, 15 (1.17) (1.03)	20, 18 (1.4) (1.2)
	24.5R32 R-1 (10)	Duals	8,520# @ 24 (3868)	44,000	17, 15 (1.17) (1.03)	24, 22 (1.6) (1.5)
	30.5L-32 R-1, R-2 (10)	Duals	8,030# @ 18 (3646)	44,000	14, 12 (0.96) (0.82)	16, 14 (1.1) (0.96)
	30.5LR32 R-1 (10)	Duals	9,140# @ 20 (4150)	44,000	14, 12 (0.96) (0.82)	20, 18 (1.4) (1.2)
	30.5L-32 LS-2 (12)	Duals				

***NOTE:** The maximum ballasted tractor weight with a 65% (front) and 35% (rear) static split is limited by the tire capacity. Front mounted liquid tanks may require use of maximum pressures or larger tire sizes or ply ratings. Front mounted integral dozer blade requires review of tire capacities to prevent overloading of tires.

****NOTE:** When two numbers appear, they represent the inflation pressures of the inside and outside dual tires respectively. On tractor drive tires used in severe service, it is permissible to increase inflation pressure up to 4 psi above that shown in the table with no increase in load.

General Specifications



CAUTION: Never exceed tire manufacturers maximum recommended inflation pressure.

NOTE: When dual tires are used inflate outside dual tire 2 psi (0.14 bar) less than inside tire. **Do not** inflate tires less than 12 psi (0.83 bar).



WARNING: Use safety cage or chain, clip on chuck, extension hose, wear eye protection and stand away from the tire while inflating to prevent the possibility of personal injury due to blowoffs, etc.

IMPORTANT: When 30.5 x 32 R1 10 ply tires are used as singles under normal operating conditions, never allow the tire to be operated below 16 psi (1.1 bar). In severe applications or where any ballast is added, tire pressure should be maintained at 20 psi (1.4 bar).



WARNING: Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in personal injury. **DO NOT** attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by a qualified tire repair service.



WARNING: Never weld on a wheel or rim with an inflated tire.

Extended Rooding

If the tractor is used for road travel for long distances (in excess of 10 miles) the tires must be inflated to the maximum allowable pressure. Readjust pressures for field work.

Tire And Ground Speed Data

There are many variables to consider when determining ground speed. For example, the rolling radii of tires are not absolute values, on some tire sizes there could be as much as 3% variation between tire manufacturers. The values used are static dimensions; dynamic values cannot be used because they vary with tractor weight, weight transfer, soil conditions and tire air pressure. These variables can account for another 3-5% variation. In addition, normal field operations are performed with 10-15% slip.

With all of these variables considered, the published ground speed chart is for reference only. Use the chart provided with multiplier factors for the various tire sizes and engine speeds.

Speed Chart Engine RPM: 2100 Transmission: Steiger PowerPulse

Gear	MPH	(KPH)
1	2.4	(3.9)
2	2.9	(4.7)
3	3.4	(5.5)
4	3.1	(6.6)
5	4.9	(7.9)
6	5.8	(9.3)
7	6.8	(11.0)
8	8.2	(13.2)
9	9.6	(15.4)
10	11.6	(18.7)
11	14.0	(22.5)
12	16.5	(26.6)
R1	3.0	(4.8)
R2	5.1	(8.2)

Average Static Loaded R.R.	Tire Size	Factor
29.4	18.4 x 34 RI	.92
30.7	20.8 x 34 RI	.96
32.1	18.4 x 38 RI	1.00
31.6	23.1 x 34 RI	1.00
32.4	24.5 x 32 RI	1.00
32.8	24.5 x 32 R2	1.02
32.0	24.5 x 32 LS2	1.00
32.4	20.8 x 38 R1	1.00
33.5	20.8 x 38 R2	1.05
32.2	30.5L x 32 R1	1.00
33.0	30.5L x 32 R2	1.03
32.5	30.5L x 32 LS2	1.02
36.0	35.5 x 32 LS2	1.12
34.4	35.5 x 32 R1	1.08

Example of Use:

If chart speed was 14.6 MPH and tractor was equipped with 20.8 x 34 R1 tires,

Then: $MPH = (\text{Chart}) \times (\text{Factor})$
 $MPH = 14.6 \times .96 = 14.0 \text{ MPH}$

Engine Speeds

If MPH is wanted for engine speeds other than rated,

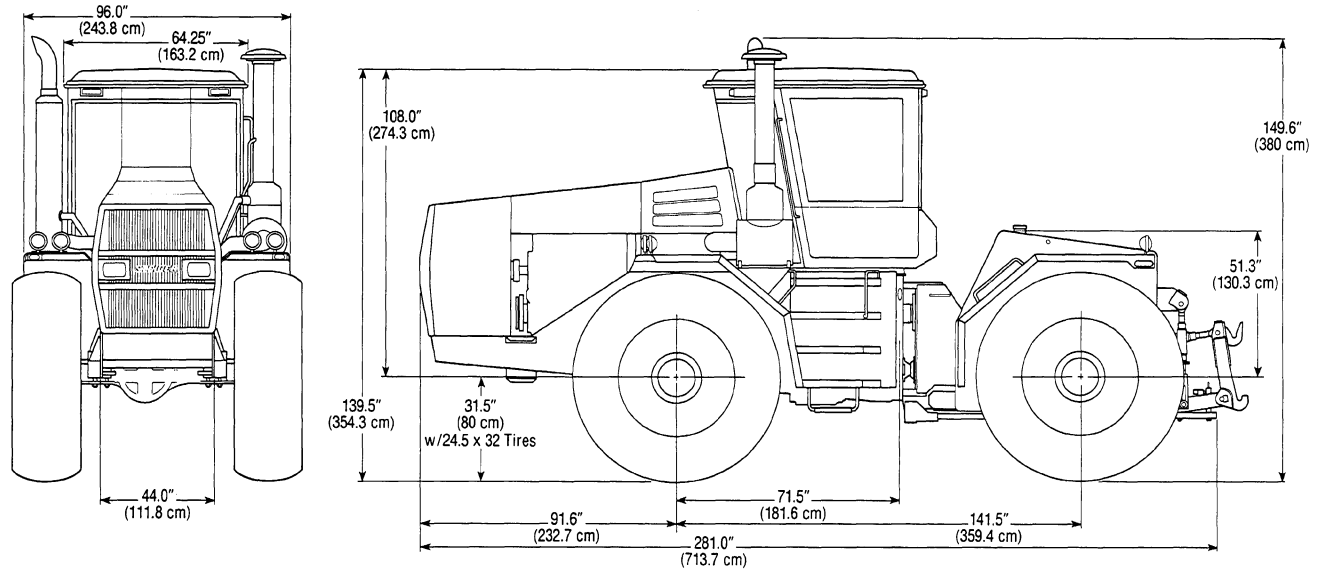
$$MPH = MPH (\text{Chart}) \times \frac{\text{Engine RPM}}{\text{Rated RPM}}$$

Example:

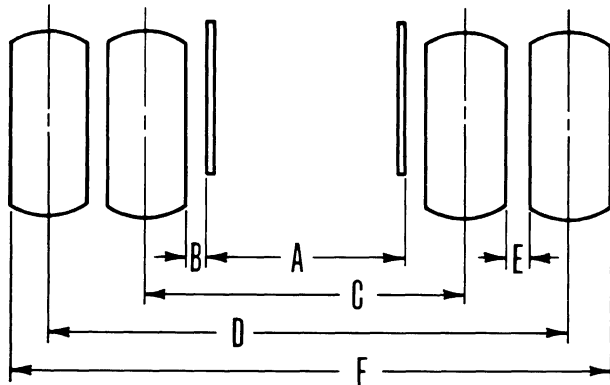
If chart speed was 14.6 MPH and tractor has engine with rated speed of 2100 RPM and MPH wanted at 1800 RPM,

Then: $MPH = 14.6 \times \frac{1800}{2100} = 12.5 \text{ MPH}$

General Specifications



General Specifications



NOTE: Specifications are subject to change without prior notification.

Wheelbase: 141.5" (359.4 cm)

Clearance: 24.5 x 32R1 tires - 21" (53.3 cm)
w/S-40 Axle to ground. 16.12" (40.9 cm) drawbar saddle to ground

Height-Top of Cab: 24.5 x 32R1 tires - 139.5" (354.3 cm)
w/30.5 x 32LS2 tires - 140.9" (357.9 cm)

Overall Height: 24.5 x 32R1 tires - 149.6" (380 cm)
w/30.5 x 32LS2 tires - 151" (383.5 cm)

Length: 259.8" (659.9 cm) frame length. 281" (713.7 cm) overall length

Width: 96" (243.8 cm) outside of fenders

Turning Radius: 17.5 feet (533.4 cm) drawbar centerline to center of circle

Frame Articulation: 40° left/right

Frame Oscillation: ± 15°

NOTE: Specifications are subject to change without prior notification.

Tire & Frame Dimension Chart

Tire Size	A		B*		C		D		E		F		Spacer Band Width (See Note)	
	in.	cm	in.	cm	in.	cm	in.	cm	in.	cm	in.	cm	in.	cm
18.4-30, 34 & 38	44.00	111.76	7.05	17.90	76.50	194.31	125.86	319.68	6.28	15.95	144.26	366.42	13.00	33.02
20.8-34	44.00	111.76	5.85	14.86	76.50	194.31	129.86	329.84	5.88	14.94	150.66	382.68	13.00	33.02
20.8-38	44.00	111.76	5.85	14.86	76.50	194.31	129.86	329.84	5.88	14.94	150.66	382.68	13.00	33.02
23.1-30 & 34	44.00	111.76	5.95	15.11	79.00	200.66	136.36	346.35	5.58	14.94	159.46	405.03	13.00	33.02
24.5-32	44.00	111.76	5.76	14.36	80.00	203.20	136.36	346.35	5.18	13.16	163.88	416.21	13.00	33.02
30.5-32	44.00	111.76	7.00	17.78	88.50	224.79	X		X		X		X	

NOTE: If Spacer Band width is 11.00 in., subtract 2.00 in. from dimension E & subtract 4" from dimension F and D.
If Spacer Band width is 15.00 in., add 2" to E and add 4" to F and D.

General Specifications

Torque Values

Cab Mounts

Every 500 service hours:

Torque Bolts A to 75 lb ft (102 N.m)

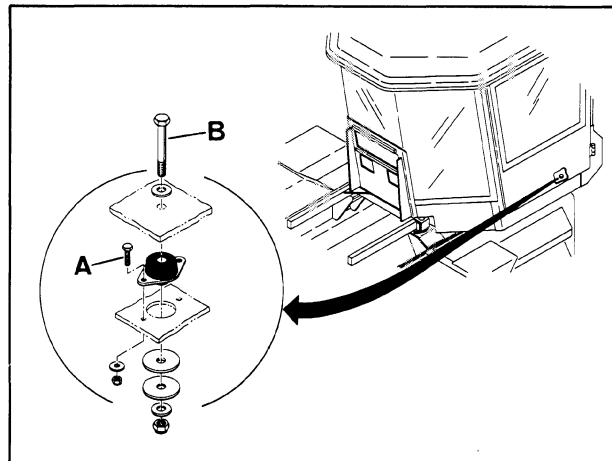
Torque Bolts B to 250-270 (339-366 N.m)



CAUTION: If the ROPS cab must ever be removed or replaced, make certain that the proper hardware is used and also that the proper torque values are applied to the attaching bolts. The eight 1/2 x 1-1/2 grade 5 bolts used to hold isolators in place must be tightened to 75 lb ft (102 N.m). The four 1" x 4" grade 8 bolts used to attach the cab to the tractor must be tightened to 250-270 lb ft (339-366 N.m).



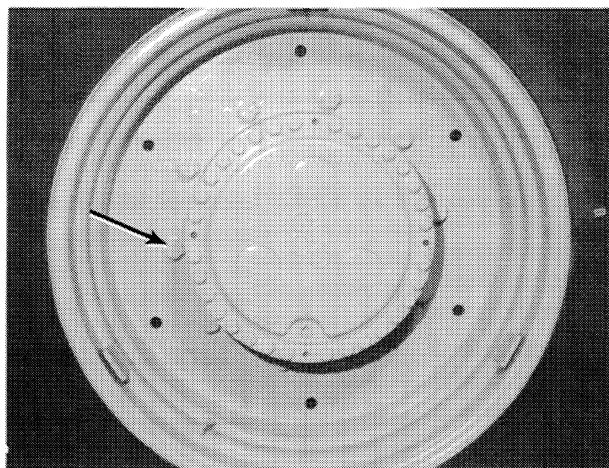
WARNING: The protection offered by the ROPS cab will be impaired if it is subjected to any modification, structural damage, or has been involved in an overturn. The ROPS cab must be replaced after a roll over.



Wheel Bolt Torque

Tighten the wheel lug bolts to 600 lb ft (814 N.m) every 10 hours for the first 50 hours. Repeat whenever the wheels are removed and remounted.

IMPORTANT: The 600 lb ft (814 N.m) specification will apply when lug bolts are clean and dry. If lug bolts are clean and dipped in SAE 30 oil, tighten the bolts to 450 lb ft (610 N.m).





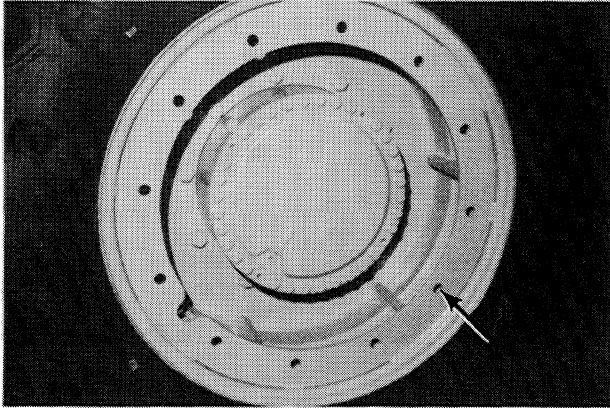
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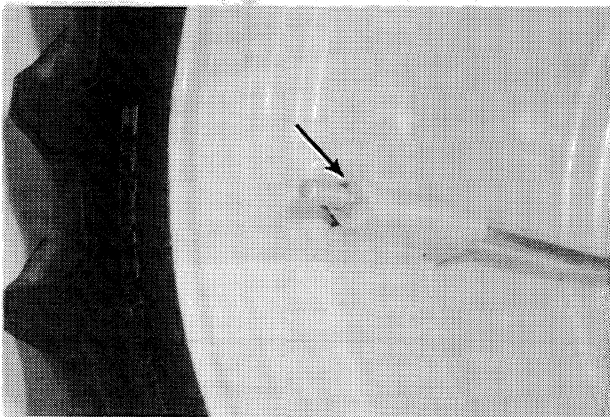
Thank you so much for reading

General Specifications



Dual Bolt Torque (Rim Style Duals)

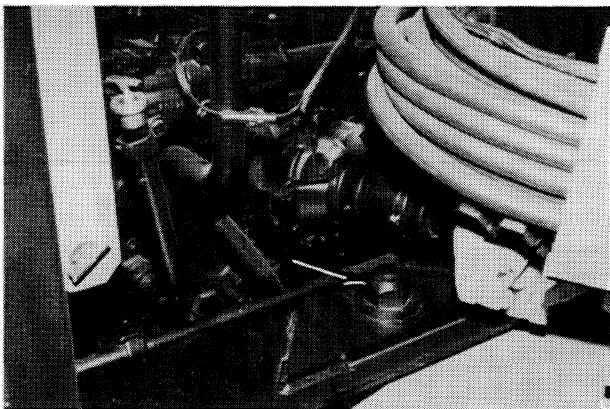
Tighten the dual bolts to 450 lb ft (610 N.m) every 10 hours for the first 50 hours. Repeat whenever the wheels are removed and remounted.



Dual Bolt Torque (Spacer Band Style)

Tighten the dual bolts on spacer band style wheels to 200 lb ft (271 N.m) every 10 hours for the first 50 hours. Repeat whenever the wheels are removed and remounted.

Tighten the dual bolts evenly until the spacer is seated. Then tighten alternately and evenly in a star configuration to 200 lb ft (271 N.m). DO NOT over tighten.



Hinge Pin Torque

All hinge pins should be retorqued every 500 hours. Torque values are published to correspond with the correct location on the hinge yoke.

Lower Vertical Hinge Pin

Lower vertical hinge pin - tighten 1200 lb ft (1627 N.m) every 500 hours.

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