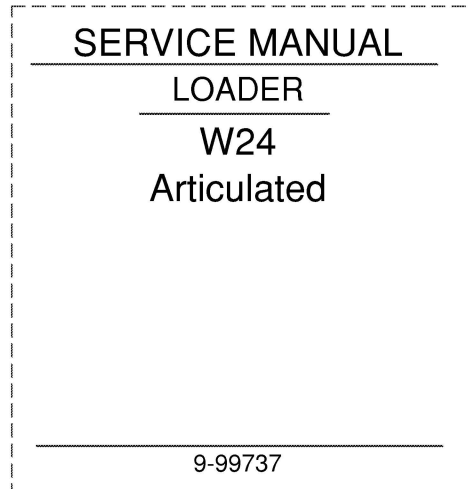


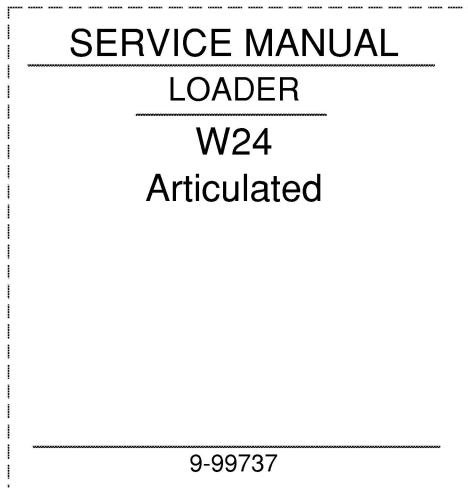
1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



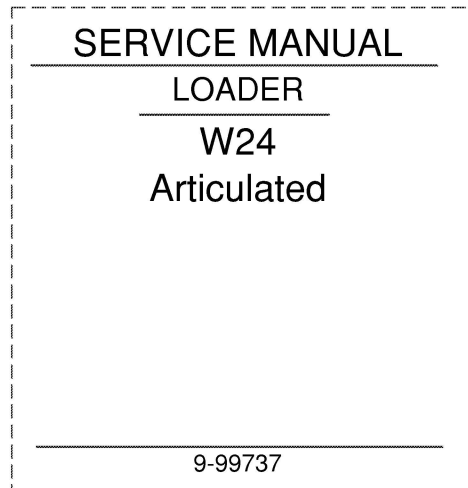
1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4



1. Trim along dashed line.
2. Slide into pocket on Binder Spine.

TYPE 1-4

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**Reprinted**

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Hello dear friend!

Thank you very much for reading.

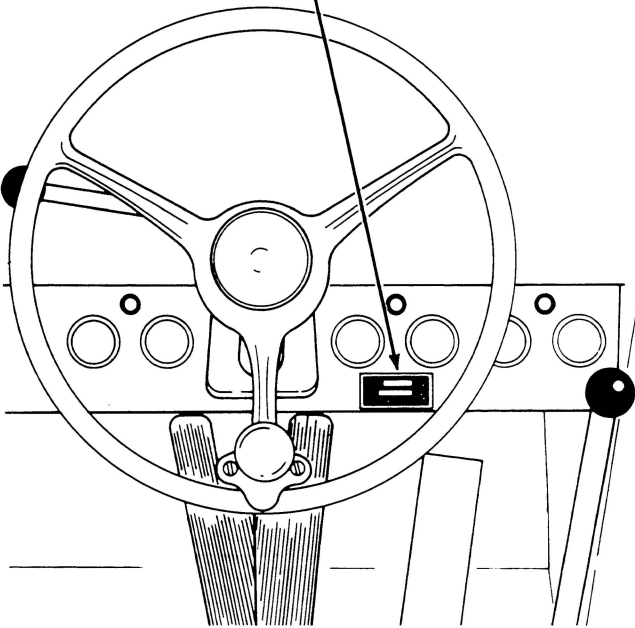
Enter the link into your browser.

The full manual is available for immediate download.

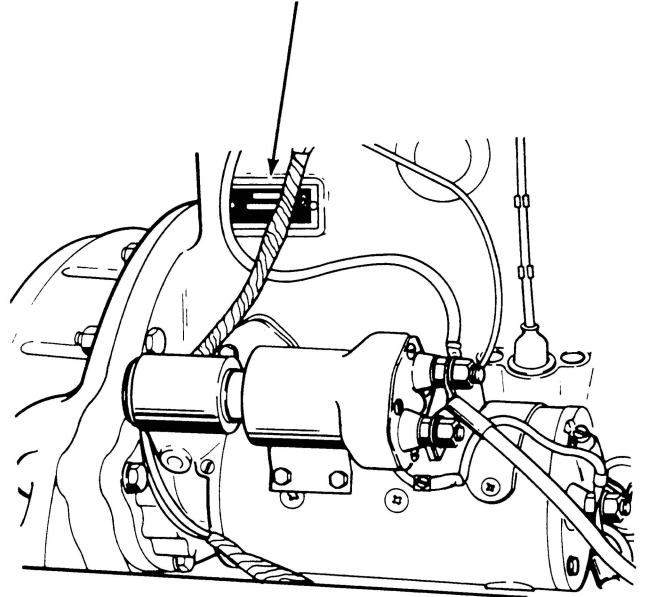
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# SERIAL NUMBER LOCATIONS

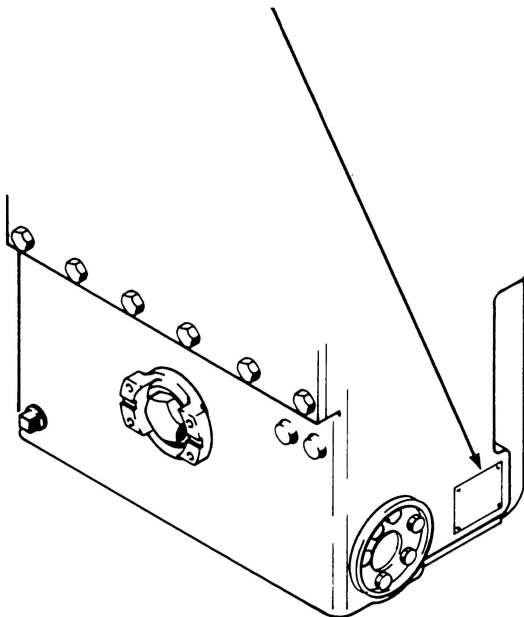
**Loader Serial Number**



**Engine Serial Number**



**Transmission Serial Number**



**Axle Serial Number**

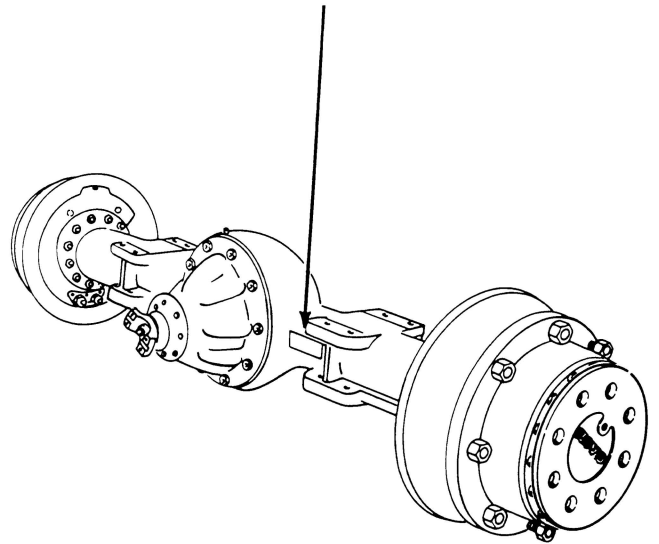


Figure 1

## MAINTENANCE CHART

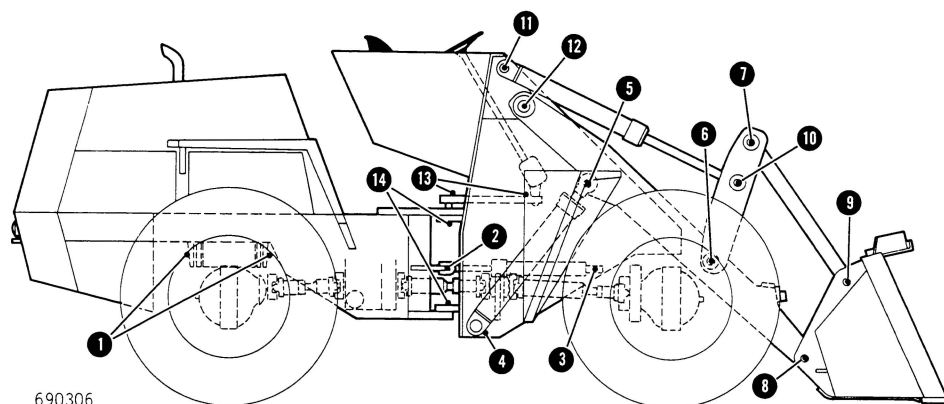
INTERVAL	TYPE OF SERVICE	FLUIDS & LUBRICANTS
Run-In Every 2 Hours	Check wheel bolt torque until stabilized. Torque 380 to 420 foot pounds. (Dry threads).	
Run-In After First 20 Hours	Change engine oil. Replace engine oil filter	See page 6.
Every 10 Hours Or Daily	Grease the loader pivot points.  Check engine oil level.  Drain water from main air reservoir.  Drain water from auxiliary air reservoir.  Check radiator coolant level.	See page 7.
Every 60 Hours Or Weekly	Grease rear axle trunnion pivots.  Grease upper and lower hinge pins.  Grease steering cylinders.  Check hydraulic oil level.  Check transmission oil level.  Check battery electrolyte level.  Lubricate brake pedal.  Drain water from 1st stage fuel filter.	See page 7.  See page 7.  See page 7.  Distilled water.  Few drops engine oil.
Every 150 Hours	Change engine oil.  Grease all drive line grease fittings and plugs.  Grease pitman arm link.  Check brake master cylinders fluid level.	See page 6.  See page 7.  See page 7.  SAE J1703 fluid
Every 300 Hours	Replace engine oil filter.	

INTERVAL	TYPE OF SERVICE	FLUIDS & LUBRICANTS
Every 500 Hours	<p>Check front and rear axle oil level.</p> <p>Check steering gear box oil level.</p> <p>Check fan belts and air compressor drive belt tensions.</p> <p>Change hydraulic oil.</p> <p>Replace hydraulic oil outlet filters (3).</p> <p>Clean air baffle screen.</p> <p>Clean hydraulic oil inlet screen.</p> <p>Drain water from fuel tank.</p> <p>Change fuel filters. (Late production only.)</p>	<p>See page 7.</p> <p>See page 7.</p>
Every 1000 Hours	<p>Clean transmission breather.</p> <p>Clean transmission oil screen.</p> <p>Replace transmission oil filter.</p> <p>Change transmission and converter oil.</p> <p>Change front and rear axle oil.</p> <p>Remove air compressor cylinder head and clean (by Case dealer only).</p>	<p>See page 7.</p> <p>See page 7.</p>
Every 3000 Hours	<p>Rebuild or replace air compressor (by Case Dealer only).</p>	
As required	<p>Clean air cleaner filter element when indicator red band is showing.</p> <p>Replace fuel filters when gauge (if so equipped) is in red zone.</p> <p>Remove and clean fuel tank filler screen.</p>	

## Loader Pivot Points

The following pivot points are to be lubricated once every 10 hours of operation or daily. In severe or abnormal work-

ing conditions lubrication should be more often. Clean grease fittings before applying grease gun. See Figure 2.



690306

Figure 2

- |                                       |       |     |                                |
|---------------------------------------|-------|-----|--------------------------------|
| (1.) Rear Axle Mounting Pivot Pins    | ..... | (2) | Front and Rear                 |
| (2.) Steering Cylinder Rear Pivot     | ..... | (2) | 1 Each Side                    |
| (3.) Steering Cylinder Front Pivot    | ..... | (2) | 1 Each Side                    |
| (4.) Lift Cylinder Lower Pivot        | ..... | (2) | 1 Each Side                    |
| (5.) Lift Cylinder Upper Pivot        | ..... | (2) | 1 Each Side                    |
| (6.) Bellcrank to Lift Arm            | ..... | (2) | 1 Each Side                    |
| (7.) Bellcrank to Bucket Control Link | ..... | (2) | 1 Each Side                    |
| (8.) Lift Arm to Bucket               | ..... | (2) | 1 Each Side                    |
| (9.) Bucket Control Link to Bucket    | ..... | (2) | 1 Each Side                    |
| (10.) Tilt Cylinder to Bellcrank      | ..... | (2) | 1 Each Side                    |
| (11.) Tilt Cylinder Rear Pivot        | ..... | (4) | 2 Each Side                    |
| (12.) Lift Arm Upper Pivot            | ..... | (4) | 2 Each Arm                     |
|                                       |       |     | 2 Inside Operators Compartment |
| (13.) Pitman Arm Link                 | ..... | (2) | Front and Rear                 |
| (14.) Chassis Center Pivot            | ..... | (2) | Upper and Lower                |

## LUBRICANTS

### Engine Lubricating Oil

SAE 30 (Service DS, Series 3 and Mil - L - 45199) ..... 32 and above  
 SAE 20W (Service DS, Series 3 and Mil - L - 45199) ..... 10 - 50  
 SAE 10W (Service DS, Series 3 and Mil - L - 45199) ..... below 32

**NOTE:** If the loader is operated during extremely cold weather, it may then be necessary to drain the oil while it is still

hot and preheat it to approximately 100° F before pouring it back into the crankcase, just prior to starting.

## Transmission and Converter Oil

Use Case Hi-Lo TCH oil.

## Hydraulic and Steering System Oil

It is recommended that Case Hi-Lo TCH oil be used. NOTE: An alternate oil may be used. It must be a heavy duty oil that meets American Petroleum Institute Service De-

signation MS or DG. For temperatures above 32° F. use SAE 10-W. For temperatures below 32° F. use SAE 5-W. If SAE 5-W is not available, Conoco Dexron may be used.

## Differentials and Planetaries

For temperatures of 0° F. and above use a Multipurpose Gear Lubricant meeting API service designation API - GL-4, SAE 90 EP.

Multipurpose Gear Lubricant meeting API service designation API GL-4, SAE 80 EP.

For temperatures below 0° F. use a

The above lubricants are suitable for use in the steering gear housing.

## Grease Fittings

Use a lithium "soap-base" grease of the following grades:

Below 32° F. . . . .	#1
32° F. to 90° F. . . . .	#2
Above 90° F. . . . .	#3

## FUEL

### Number 2 Diesel Fuel

Case diesel engines are designed to operate most efficiently when using a number 2 Diesel Fuel.

Do not confuse Number 2 Diesel Fuel (ASTM DESIGNATION D975-60T) with Number 2 Furnace Oil (ASTM DESIGNATION D396-60T).

These are specifications for suitable number 2 Diesel fuel.

API Gravity . . . . .	32 - 39
Pour Point . . . . .	A Rating 10 Degrees Lower than the Lowest Expected Temperature
Volatility	
Initial Boiling Point (Minimum) . . . . .	320° F.
50% Condensed . . . . .	475° - 550° F.
Final Boiling Point (Maximum) . . . . .	675° F.
Distillation Recovery (Minimum) . . . . .	97%
Flash Point . . . . .	Legal Minimum Limit or Higher
SUS Viscosity at 100° Fahrenheit . . . . .	34 - 39 Seconds
Cetance (Minimum) . . . . .	45 (45-55 for Winter Use)
Diesel Index . . . . .	43
Water and Sediment (Maximum) . . . . .	.05%
Ash (Maximum) . . . . .	.02%
Total Sulphur (Maximum) . . . . .	.5%
Conradson Carbon . . . . .	.2%
Copper Strip Corrosion . . . . .	Pass
Alkali and Mineral Acid . . . . .	Neutral

The use of number 1 Diesel Fuel, which is a lighter fuel, may result in a loss of engine power and increased fuel consumption because it has less heat content and a lower viscosity than number 2 Diesel Fuel.

The life of the injection pump may also be affected because of the lack of lubricant in the light number 1 Diesel Fuel.

### Approximate Capacities

#### U. S. MEASURE

Fuel Tank .....	58 Gallons
Engine Crankcase	
Without Filter Change .....	12 Quarts
With Filter Change .....	13 Quarts
Differential Housing	
Front .....	21 Pints
Rear .....	22 Pints
Planetary Housings	
Front (Each) .....	5 Pints
Rear (Each) .....	3-1/2 Pints
Transmission and Torque Converter .....	9 Gallons
Cooling System .....	27 Quarts
Hydraulic Reservoir, Refill .....	20.8 Gallons
Steering Gear Housing .....	2.5 Pints

### SERVICING AIR CLEANER ELEMENTS

The air cleaner must be serviced when the red band is in full view on the air cleaner service indicator.

dry as shown in Figure 3.

**PRIMARY FILTER ELEMENT:** Washing is the preferred method of cleaning the element as it removes more dust and soot, thus restoring the element to an almost new condition.

Wash the filter in Case Filter Element Cleaner, Part No. A40910. Mix according to instructions on container. Do not use water pressure over 40 PSI at the nozzle. Let the element dry completely before installing. Do not use air pressure to dry the element.

The element can be cleaned with compressed air although it is not recommended because it will not remove carbon and soot. Do not use air pressure in excess of 100 PSI at the nozzle. Place the element on a clean flat surface, then place a cover (wood or metal) with a small opening over the top of the element. Place nozzle in opening in cover. Blow element clean, starting with low air pressure and gradually increasing it.

Inspect the element after it is clean and

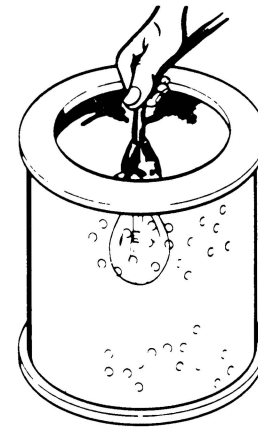


Figure 3

Rotate the filter around the light and check for damage and pin holes. Check the gasket for defects. Inspect the metal covering for dents. Any dent in the covering is a potential puncture, in that the paper element will rub the dent and a hole will result. Elements with holes or indications of fuzz must be replaced. Replace gasket if it is found to be defective. Do not accept a new filter or in-

stall a new or used filter if the metal covering is dented.

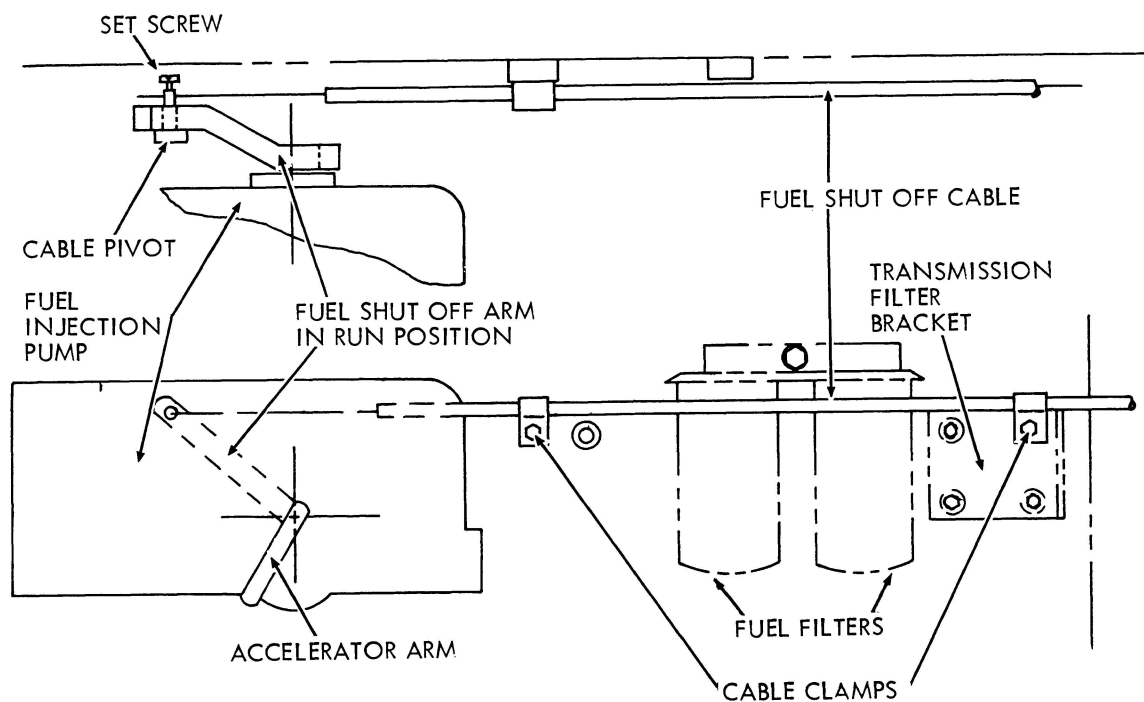
The filter should be replaced after it has been cleaned six times or once a year (1000 hours), whichever occurs first. When servicing the air cleaner, make sure all connections are air tight. Air cleaner efficiency is directly dependent upon air tight connections.

**SECONDARY FILTER ELEMENT:** Cleaning the secondary element is not recommended except in an emergency. If the element is cleaned it should be replaced as soon as possible. Check the secondary element for replacement as follows: Install cleaned or new primary filter element and start engine. Observe air cleaner service indicator. If the red signal is still in full view on the service indicator the secondary filter element must be replaced immediately.

## Fuel Shut-Off Adjustment

Refer to Figure 4.

1. Loosen set screw on fuel shut-off arm pivot. The shut-off arm will position itself in the run position when free to move.
2. Push the fuel shut-off handle in until seated against the mounting ferrule. If necessary loosen cable mounting clamps to position cable in shut-off arm pivot.
3. Tighten cable pivot set screw and the cable clamps if loosened.
4. With the engine running, pull the fuel shut-off handle all the way out. The engine should stop if the adjustment is correct.



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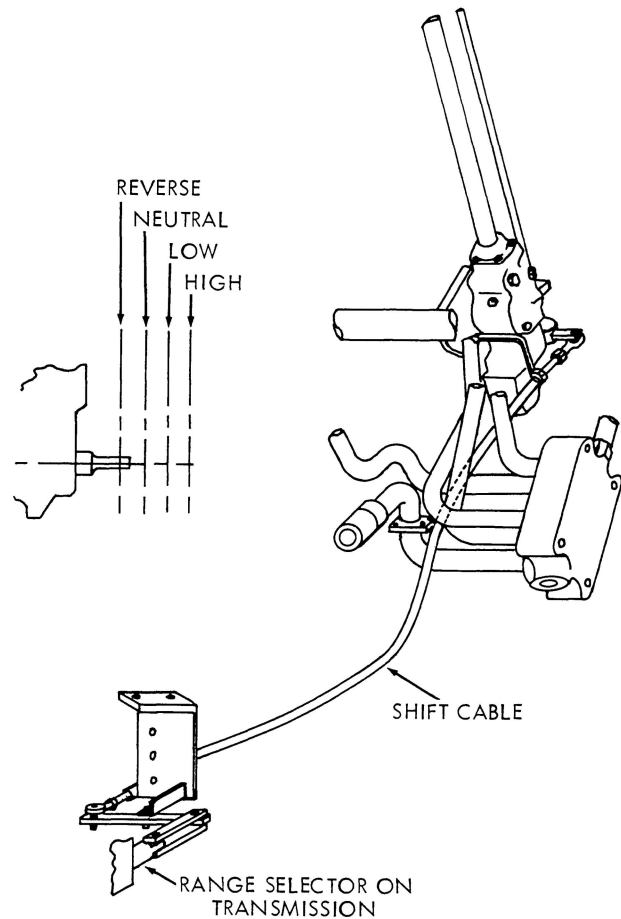
Figure 4

## Shift Linkage Routing and Adjustment

Prior to adjusting the linkage make sure the cable is routed as shown in Figure 5. Also make sure clutch cut-out actuating collar at the bottom of the shift lever permits movement to "H" position on the selector and engage the stop.

To adjust the shift linkage proceed as follows:

1. Disconnect shift cable at transmission end and position direction selector on transmission in reverse.
2. Place the shift lever in reverse.
3. Turn the cable eye as necessary to align the hole in the eye with the hole in the cross arm.
4. Start engine and check for proper shifting operation. Readjust as required.
5. Tighten cable eye locknut after final adjustment.



691247

Figure 5

## HYDRAULIC AND STEERING SYSTEM

The hydraulic and steering system must be serviced after every 500 hours of operation.

**WARNING:** This is a pressurized system. Before performing any service on the hydraulic and steering system, close the air valve and loosen dipstick/filler cap slowly to release air pressure. Figure 6.

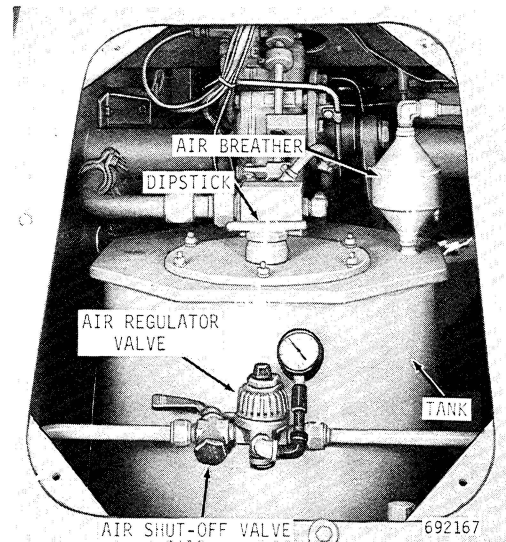


Figure 6

### Servicing the Hydraulic Reservoir

**AIR BREATHER** - To service air breather, disconnect air line from breather and remove breather. Clean breather in cleaning solvent. After the air breather is dry, reinstall breather and connect the air line.

**FILTERS** - See Figure 7. Make sure air valve to reservoir is closed and air pressure in the reservoir has been released. Remove reservoir top cover and gasket. Discard gasket. Remove the two drain plugs on the bottom of the reservoir. Remove the inlet filter screen and clean in a cleaning solvent. Remove the relief valves that hold the three outlet filter elements. Remove and discard filter elements. Clean inside of reservoir with a lint free cloth.

Install three new outlet filter elements and the relief valves that retain them. Reinstall the cleaned inlet filter screen. Reinstall the two drain plugs. Install new top cover gasket and the top cover, torque nuts to 35-40 foot pounds. Refill reservoir with 20.8 gallons of new Case TCH Oil. Replace "O" ring on dipstick/filler cap and replace dipstick/filler cap to reservoir.

After servicing is completed, open air valve to reservoir and start engine. Do not operate engine over low idle speed until air

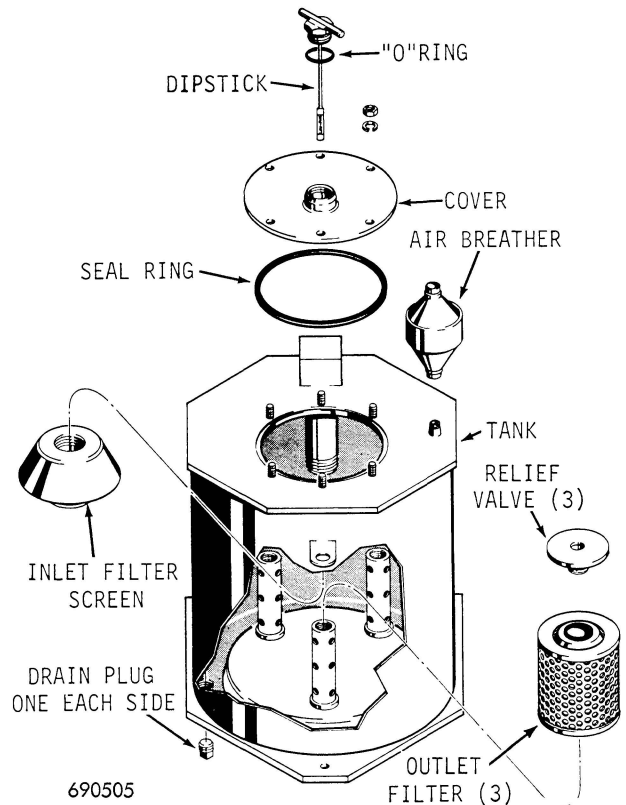


Figure 7

pressure gauge on reservoir registers between 13 and 19 PSI. Operate hydraulic system through complete cycle (raise, dump, retract and lower) and turn steering wheel to extreme right and left. Shut engine off and close air valve. Check oil level with dipstick. Add oil

if needed and repeat cycle until oil is at the proper level. Check reservoir oil level after every 60 hours of operation. Do not overfill. The reservoir air pressure gauge should read between 13 and 19 PSI.

## TRANSMISSION AND CONVERTER OIL AND FILTER CHANGE

The transmission must be serviced after every 1000 hours of operation or yearly.

**TRANSMISSION OIL STRAINER - Figure 8.** Remove drain plug and strainer and gasket. Discard gasket. Clean the strainer in cleaning solvent. **NOTE:** Do not install drain plug and strainer until the oil filter and breather have been serviced. This procedure is recommended to allow maximum oil drainage.

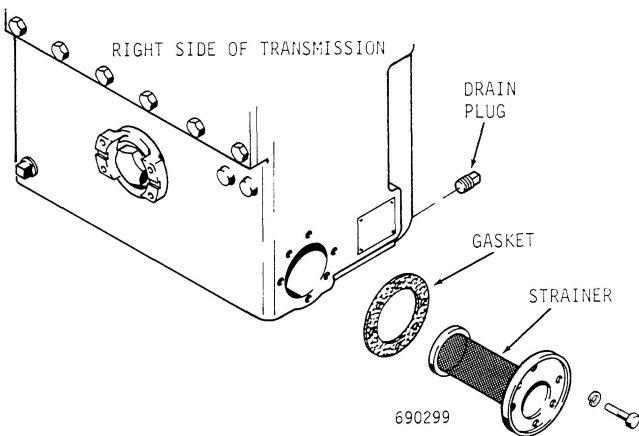


Figure 8

**TRANSMISSION BREATHER - Figure 9.** Remove breather and clean in cleaning solvent. Reinstall breather. If the breather appears to be damaged it must be replaced.

**TRANSMISSION OIL FILTER - Figure 9.** To remove the filter element, loosen the cover retaining clamp bolts and remove clamp, cover with relief valve, gasket and filter

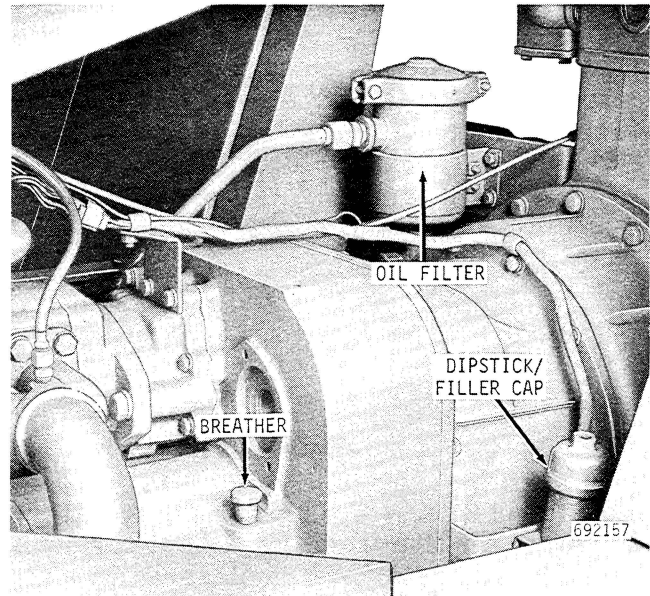


Figure 9

element. Discard gasket and filter element. Remove the remaining oil from the filter case with a hand suction gun. Clean the inside of the filter case with a lintfree cloth. Install a new filter element and gasket. Reinstall cover and retaining clamp and tighten.

After servicing the oil filter, reinstall the drain plug and strainer with a new gasket. Fill transmission with 9 gallons of new Case TCH Oil. Start engine and run at idling speed for a few minutes to fully charge the transmission and converter. Check oil level as instructed on page 35 in Transmission Section. Check for oil leaks.

# TORQUE SPECIFICATIONS

## Grade 5 Capscrews, Nuts, Studs

S.A.E. Grade 5 Bolts (A.S.T.M. A325 and A.S.T.M. A449) are made from quenched and tempered medium carbon steel - Grade 5 bolts are identified by three (3) equally spaced radial lines embossed on the head of the bolt.



Coarse Thread (N.C.)      Fine Thread (N.F.)

	Torque (ft. lbs.)		Torque (ft. lbs.)
1/4" - 20 N.C.	5-10	9/16" - 12 N.C.	100-120
1/4" - 28 N.F.	10-15	9/16" - 18 N.F.	110-130
5/16" - 18 N.C.	15-20	5/8" - 11 N.C.	135-165
5/16" - 24 N.F.	15-20	5/8" - 18 N.F.	160-200
3/8" - 16 N.C.	25-35	3/4" - 10 N.C.	235-285
3/8" - 24 N.F.	30-40	3/4" - 16 N.F.	270-330
7/16" - 14 N.C.	45-55	7/8" - 9 N.C.	360-440
7/16" - 20 N.F.	50-60	7/8" - 14 N.F.	395-490
1/2" - 13 N.C.	65-85	1" - 8 N.C.	520-640
1/2" - 20 N.F.	80-100	1" - 12 N.F.	575-705

## Grade 8 Capscrews, Nuts, Studs

S.A.E. Grade 8 Bolts (A.S.T.M. A354, Grade BD), are made from quenched and tempered medium carbon alloy steel. Grade 8 Bolts are identified by six (6) equally spaced radial lines embossed on the head of the bolt.



Coarse Thread (N.C.)      Fine Thread (N.F.)

	Torque (ft. lbs.)		Torque (ft. lbs.)
1/4" - 20 N.C.	10-15	9/16" - 12 N.C.	135-165
1/4" - 28 N.F.	15-20	9/16" - 18 N.F.	155-190
5/16" - 18 N.C.	20-30	5/8" - 11 N.C.	200-240
5/16" - 24 N.F.	25-30	5/8" - 18 N.F.	215-265
3/8" - 16 N.C.	40-50	3/4" - 10 N.C.	340-420
3/8" - 24 N.F.	45-55	3/4" - 16 N.F.	380-460
7/16" - 14 N.C.	60-80	7/8" - 9 N.C.	540-660
7/16" - 20 N.F.	70-90	7/8" - 14 N.F.	595-725
1/2" - 13 N.C.	100-120	1" - 8 N.C.	810-990
1/2" - 20 N.F.	110-130	1" - 12 N.F.	900-1100

## TORQUES FOR HYDRAULIC FITTINGS

The following are torque specifications for installation of 37° flare female swivel fittings, straight thread "O" ring boss fittings,

and the locking nut on adjustable style "O" ring fittings. These torque values apply to steel fittings only.

Dash Size	Tube O.D. (Ref.)	Thread Size	37° Flare Female Swivel Ft. Lbs. Torque	Straight Thd. "O" Ring Ft. Lbs. Torque
4	1/4	7/16-20	6-12	12-19
5	5/16	1/2-20	8-16	16-25
6	3/8	9/16-18	10-25	25-40
8	1/2	3/4-16	15-42	42-67
10	5/8	7/8-14	25-58	58-92
12	3/4	1-1/16-12	40-80	80-128
14	7/8	1-3/16-12	60-100	100-160
16	1	1-5/16-12	75-117	117-187

# Section 1020

## DETAILED SPECIFICATIONS 504BD ENGINE

### FRACTION to DECIMAL to MILLIMETER CONVERSION TABLE

Fraction	Decimal	MM	Fraction	Decimal	MM	Fraction	Decimal	MM
1/64	.0156	0.397	23/64	.3593	9.128	45/64	.7031	17.859
1/32	.0312	0.794	3/8	.3750	9.525	23/32	.7187	18.256
3/64	.0468	1.191	25/64	.3906	9.922	47/64	.7343	18.653
1/16	.0625	1.587	13/32	.4062	10.319	3/4	.7500	19.050
5/64	.0781	1.984	27/64	.4218	10.716	49/64	.7656	19.447
3/32	.0937	2.381	7/16	.4375	11.113	25/32	.7812	19.844
7/64	.1093	2.778	29/64	.4531	11.509	51/64	.7968	20.240
1/8	.1250	3.175	15/32	.4687	11.906	13/16	.8125	20.637
9/64	.1406	3.572	31/64	.4843	12.303	53/64	.8281	21.034
5/32	.1562	3.969	1/2	.5000	12.700	27/32	.8437	21.431
11/64	.1718	4.366	33/64	.5156	13.097	55/64	.8593	21.828
3/16	.1875	4.762	17/32	.5312	13.494	7/8	.8750	22.225
13/64	.2031	5.159	35/64	.5468	13.890	57/64	.8906	22.622
7/32	.2187	5.556	9/16	.5625	14.287	29/32	.9062	23.019
15/64	.2343	5.953	37/64	.5781	14.684	59/64	.9218	23.415
1/4	.2500	6.350	19/32	.5937	15.081	15/16	.9375	23.812
17/64	.2656	6.747	39/64	.6093	15.478	61/64	.9531	24.209
9/32	.2812	7.144	5/8	.6250	15.875	31/32	.9687	24.606
19/64	.2968	7.541	41/64	.6406	16.272	63/64	.9843	25.003
5/16	.3125	7.937	21/32	.6562	16.669	1	1.0000	25.400
21/64	.3281	8.334	43/64	.6718	17.065			
11/32	.3437	8.731	11/16	.6875	17.462			

### INCH to MILLIMETER CONVERSION TABLE

Inch	MM	Inch	MM	Inch	MM	Inch	MM
1	25.400	6	152.000	10	254.000	60	1,524.000
2	50.800	7	177.800	20	508.000	70	1,778.000
3	76.200	8	203.200	30	762.000	80	2,032.000
4	101.600	9	228.600	40	1,016.000	90	2,286.000
5	127.000	10	254.000	50	1,270.000	100	2,540.000

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## RUN-IN-INSTRUCTIONS

### Engine Lubrication

When the engine rebuild is complete, fill the engine crankcase with Case HDM oil and install new engine oil filters. **NOTE:** If Case HDM oil is not used, use only a Series 3 DS or CD Service Classification oil that has the proper viscosity rating for prevailing air temperature. Refer to vehicle Operators Manual.

After the first 20 hours of operation, change the engine oil while the engine is hot and replace the engine oil filter/s. **DO NOT DRAIN OIL UNTIL THE ENGINE HAS BEEN OPERATED 20 HOURS.**

Change the engine oil and filter/s at the recommended intervals thereafter as outlined in the Operator's Manual.

### Break-In Procedure for Rebuilt Engines (With a Dynamometer)

The following procedure must be implemented when using a PTO dynamometer to break-in the engine. The dynamometer will insure control of the engine load at each speed and will eliminate over stressing new parts during break-in.

During the break-in, continually check the oil pressure, coolant level, and coolant temperature.

STEP	TIME	ENGINE SPEED	DYNAMOMETER SCALE LOAD*
1	**10 Minutes	1000 RPM	None
2	**10 Minutes	1800 RPM	None
3	20 Minutes	1800 RPM	1/3
4	20 Minutes	1800 RPM	1/2
5	***30 Minutes	100 RPM below rated speed	3/4
6	Retorque the cylinder head bolts using the procedure described in Section 2015 of this service manual.		

\*Based upon normal dynamometer scale load at rated speed for the particular vehicle model. Reduce this scale load as indicated.

\*\*The most ideal break-in procedure would be to constantly vary the throttle between 750 to 1000 RPM for the first 10 minutes and from 1000 RPM to 1800 RPM for the next 10 minutes. The purpose of this changing RPM is to vary the lubrication and coolant flow.

\*\*\*30 minutes at 3/4 load is a minimum amount of time the engine should be run. It is recommended that whenever possible the engine (especially turbocharged diesels) should be run for four (4) hours or more at the above speed and load before checking the full engine horsepower or before using the engine for heavy field work.

### Break-In Procedure for Rebuilt Engines (Without a Dynamometer)

STEP	TIME	ENGINE SPEED	LOAD
1	*10 Minutes	1000 RPM	None
2	*10 Minutes	1800 RPM	None
3	30 Minutes	2/3 Rated RPM	Light Load
4	1 Hour	Full RPM (not over 2000 RPM)	80 to 90%
5	Retorque the cylinder head bolts using the procedure described in Section 2015 of this service manual.		

\*If engine must then run at or near full load to operate the machine - for first hour remove load and run at high idle for a few minutes at 15 minute intervals.

### **Run-In Procedure (Agricultural Tractors)**

For the first 8 hours of field operation stay one gear lower than normal. For the next 12 hours DO NOT “lug” the engine. Prevent “lugging” by shifting to a lower gear. The engine must not be “lugged” below its Rated Engine RPM during the early hours of life.

### **Run-In Procedure (Construction Equipment)**

For the first 8 hours, operate the engine at full throttle maintaining a normal load. DO NOT baby the engine, but avoid prolonged converter or hydraulic stall. Engine must not be “lugged” below its Rated Engine RPM (Do not exceed 10 seconds of stall).

### **Run-In Procedure (Power Units)**

For the first 1/2 hour, operate engine at 2/3 rated RPM with a light load or no load. For the next (1) hour, run engine at 80 to 90% load at rated RPM (but not over 2000 RPM). Then full load and rated RPM as required in application.



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## DETAILED ENGINE SPECIFICATIONS

### Cylinder Sleeves

	Decimal System	Metric System
I.D. of sleeve including wear .....	4.6250 to 4.6333"	117.475 to 117.7163mm
Sleeve out of round (installed in block) .....	.001"	.025mm
Maximum Limit including wear .....	.002"	.0508mm
Taper (installed in block) .....	.001"	.0254mm
Maximum limit including wear .....	.007"	.1778mm
Clearance to bottom of piston skirt, 90° to piston pin including wear .....	.0052 to .0175"	.1321 to .445mm

### Piston

Type .....	Cam ground	
Material .....	Aluminum Alloy	
O.D. at bottom of skirt, 90° to piston pin including wear .....	4.6178 to 4.6198"	117.2921 to 117.3429mm
I.D. of piston pin bore including wear .....	1.8001 to 1.8015"	45.7225 to 45.7581mm
Width of 3rd ring groove including wear .....	.2505 to .2535"	6.3627 to 6.4389mm

### Piston Rings

No. 1 Compression (chrome) .....	Keystone	
End gap in 4.625 I.D. (117.475 I.D.) sleeve including wear .....	.017 to .036"	.432 to .914mm
No. 2 Compression .....	Square Section	
End gap in 4.625 I.D. (117.475mm I.D.) sleeve including wear .....	.013 to .033"	.330 to .838mm

### Oil Ring

Width .....	.2485 to .2490"	6.3119 to 6.3246mm
End gap in 4.625 I.D. (117.475mm I.D.) sleeve .....	.013 to .038"	.330 to .838mm
Side clearance including wear .....	.001 to .005"	.025 to .127mm

### Piston Pin

Type .....	Full Floating	
O.D. of pin .....	1.7994 to 1.7996"	45.7052 to 45.7102mm
Fit in piston .....	.0005 to .0011"	.0127 to .0279mm
Fit in rod bushing .....	.0008 to .0014"	.0203 to .0356mm

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