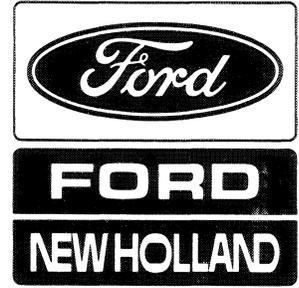


Product: New Holland Ford Designation 6 Tractor Service Repair Manual
Full Download: <https://www.arepairmanual.com/downloads/new-holland-ford-designation-6-tractor-service-repair-manual/>

VERSATILE



Service Manual

Designation 6 Tractor

Issue 1-91
(Replaces All Previous Issues)



Sample of manual. Download All 600 pages at:
<https://www.arepairmanual.com/downloads/new-holland-ford-designation-6-tractor-service-repair-manual/>

40075691

Reprinted

Product: New Holland Ford Designation 6 Tractor Service Repair Manual
Full Download: <https://www.arepairmanual.com/downloads/new-holland-ford-designation-6-tractor-service-repair-manual/>

Sample of manual. Download All 600 pages at:

<https://www.arepairmanual.com/downloads/new-holland-ford-designation-6-tractor-service-repair-manual/>

CONTENTS

SECTION 1 – SPECIFICATIONS AND DATA	1-1
SECTION 2 – ENGINE SYSTEMS	2-1
SECTION 3 – 12-SPEED MECHANICAL TRANSMISSION	3-1
SECTION 4 – 15-SPEED MECHANICAL TRANSMISSION	4-1
SECTION 5 – DRIVE TRAIN	5-1
SECTION 6 – POWERSHIFT TRANSMISSION	6-1
SECTION 7 – HYDRAULICS	7-1
SECTION 8 – ELECTRICAL SYSTEMS	8-1
SECTION 9 – ENVIRONMENTAL SYSTEMS	9-1
SECTION 10 – STRUCTURES	10-1
SECTION 11 – THREE-POINT HITCH	11-1
SECTION 12 – BRAKES	12-1
INDEX	12-13

Safety

This section contains general safety precautions which should be thoroughly studied and practised by all service personnel. Refer to your tractor Operator's Manual for more detailed safety information.

GENERAL SAFETY

1. Mount a fire extinguisher near the service area. Maintain it as recommended by the manufacturer.
2. Never operate the tractor in an enclosed building. If it is absolutely necessary to do so, be sure the building is well ventilated and ducting is used to direct exhaust fumes outside.
3. Always keep sleeves, jackets or other loose clothing relatively tight and belted. Loose clothing might catch in moving tractor parts.
4. Never jump from the cab. Always use steps and handholds when mounting and dismounting tractor.
5. Park the tractor on a clear, level area before beginning any maintenance procedure. Shut down the engine and remove key; apply parkbrake; chock the front and back of at least two wheels. Ensure all operating controls are in neutral. Always disengage the PTO clutch and three-point hitch. Engage articulation lock.
6. Always lower implements to the ground when leaving equipment.
7. Always operate tractor controls from the operator's seat.
8. Use articulation lock during tractor servicing. See Section 10, STRUCTURES.

TRANSPORT SAFETY

1. Use a trailer with a carrying capacity of at least 18 tonnes (20 tons) to haul the tractor.

2. Securely chain the tractor to the trailer, block the wheels and engage the parkbrake to prevent tractor movement. Engage articulation lock.

JACKING SAFETY

1. Select a jack strong enough to carry the load. The minimum required jack capacity is 4.5 tonnes (5 tons).
2. Stabilize the tractor by putting transmission into gear, engaging the parkbrake and chocking wheels securely. Engage articulation lock.
3. To prevent jackknifing, use two hoists or two rear jacks to lift the rear frame.
4. Secure the jack under the axle tube, frame or drawbar where it is strong enough to keep the jack from tipping, sinking or shifting. Any additional blocking should be under the jack.
5. Jack up the front and/or rear frame just enough to install steel safety stands under the axle tubes or frame.
6. Check the jack position after it has started to lift. Lower the jack immediately if it starts to lean. Reset the jack; block the tractor more securely and lift again.
7. Keep the tractor stable by not raising it so high that it will slide off the jack.
8. Put support stands under the tractor. Lower the jack and let the tractor rest on the stands. This provides solid support for the tractor when the jack is removed.

HOIST SAFETY

1. Use a chain hoist and frame to lift the tractor. The minimum hoist capacity required is 9 tonnes (10 tons); 7 257 kg (8 tons) for the A-frame or overhead support and 2 721 kg (3 tons) for the support stands.
2. Protect yourself from injury when tractor is being raised by observing the following precautions:
 - a. Do not stand on the tractor when it is being lifted.

- b. Keep hands away from pinch points where the chain links tighten or the chain is against the tractor frame.
 - c. Do not let the tractor swing and strike personnel or the frame as it leaves the ground.
 - d. Keep support stands nearby and place under the tractor when the necessary height is reached.
 - e. Do not go under a tractor supported by a chain hoist. Put support stands under the tractor before working under it.
 - f. Engage articulation lock.
 - g. A cab support is available where better access is required.
3. Extreme care must be exercised when hoisting, lowering or moving any transmission component.

MAINTENANCE SAFETY

1. Shut down engine before repairing tractor.
2. Be alert when approaching the tractor while it is running. Be especially careful around the PTO, articulation joint and three-point hitch.
3. Engage articulation lock during overhaul operations.
4. Never oil, grease or adjust the tractor while it is moving. Never run engine while tractor is being adjusted, cleaned or repaired.
5. Before repairing any hydraulic system component, shut down engine and move all implement controls forward and backward several times to relieve pressure. Disconnect any components connected to the hoses.
6. Wear a face shield or goggles to protect your eyes and heavy gloves to protect your hands when searching for hydraulic leaks or charging the air conditioning system.
7. Escaping hydraulic oil under pressure can penetrate the skin causing severe personal injury.

Use a piece of cardboard or wood as a backstop when searching for leaks. If injured by escaping hydraulic oil, get immediate medical attention.

8. Do not smoke; avoid open flames when filling batteries.
9. Shut down engine and remove key before disconnecting or servicing PTO drivelines.
10. Do not remove radiator cap while the engine is hot. Let engine cool below 74° C (165° F) before removing cap.
11. Stop engine before making any linkage adjustments.
12. Welding fuel tanks is dangerous and not recommended.
13. Repair adhesive is flammable. Keep adhesive and its vapors from heat, sparks and flame.
14. During adhesive use, and until vapor is gone, avoid using spark producing electrical equipment. Keep container closed when not in use.
15. Use adhesive only in a well ventilated area.

FUEL AND FLUID SAFETY

1. Do not smoke; avoid open flame when:
 - a. Filling the fuel tanks
 - b. Filling batteries
 - c. Working near a disassembled air conditioning system. Refrigerant vapor and flame combined produce lethal phosgene gas.
2. Add coolant to the radiator only when the engine is OFF. Turn the radiator cap slightly to relieve pressure before completely removing it.
3. Do not use an open pail or can for transporting fuel. Use only an approved container manufactured for that purpose.
4. If clothes are splashed with fuel, change immediately. Fuel soaked clothes are an extreme fire hazard.

5. Dispose of all fuel soaked rags. Do not leave them lying around a work area

where they may be exposed to flame, spark or cigarette smoking.

SECTION 1

SPECIFICATIONS AND DATA

1 Introduction

This section contains general information about specifications, capacities, fuel, fluids and lubricants for the tractor.

2 Specifications

2.1 ACCESSORIES

Cold Start Manual control, ether type

756

Engine Block Heater 750 W
recirculating type

836, 856, 876

Engine Block Heater 1500 W
immersion type

936, 956, 976

Engine Block Heater 1500 W
immersion type

Radio AM/FM stereo cassette
with two 100 x 152 mm (4 x 6 in.)
coaxial speakers
roof mounted antenna

2.2 AIR CLEANER

Type Dual element, dry type with
safety element, exhaust aspirated
precleaner, restriction indicator
mounted on air cleaner

2.3 AXLES

Outboard

Type Spiral bevel differential with outboard
planetary, floating ring gear final drive

Differential Ratio 4.88:1

Lubrication SAE 80W90, 85W140

Oil Capacity (each) 38.8L (41 qt US)

Planetary Ratio 5.285:1

Total Ratio 27.45:1

Inboard

Type Row Crop, adjustable wheel
mounting, inboard planetaries

Differential Ratio 3.53:1

Lubrication SAE 80W90, 85W140

Oil Capacity (each) 30 L (30.9 qt US)

Planetary Ratio 7.8:1

Total Ratio 27.53:1

2.4 BRAKES

Type twin piston caliper, hydraulically
activated by foot pedal on single disc
432 mm (17 in.) for mechanical transmission
and 508 mm (20 in.) for powershift
transmission

Meets or Exceeds ... ASAE S365T (SAE J1041)

Parkbrake Integral with road brake
mechanically activated by
overcenter lever

2.5 CAB

Type Independant modular design
Rollover Protective Structure (ROPS)
(ROPS ASAE S383)

Glass Tinted safety, 4.58 m² (49.3 ft²)

Emergency Exits Two, Rear window
and right side window

Wipers Two wipers, two speed

Seat Cloth covered, two stage
air suspension

Seat Belts ... Retractable, SAE J141, SAE J385

2.6 CAPACITIES

Axles, Differentials (each)

Outboard 38.8 L (41 qt US)

Inboard 30 L (30.9 qt US)

Cooling System

756 37.5 L (40 qt US)

836, 856, 876 52.1 L (55 qt US)

936, 956, 976 60.3 L (63.7 qt US)

Engine Oil

756 18.9 L (5 US G)

836, 856, 876 26 L (7 US G)

936, 956, 976 37 L (9.8 US G)

Fuel Tanks	
756	933 L (246 US G)
836, 856, 876	933 L (246 US G)
936, 956, 976	1085 L (286 US G)

Hydraulic System	
756	58 L (15.3 US G)
836, 856, 876	58 L (15.3 US G)
936, 956, 976	55 L (14.5 US G)

Transmissions	
12 Sp Mech	20.3 L (21.5 qt US)
15 Sp Mech	23.6 L (25 qt US)
1050 P/S	28.5 L (30 qt US)
1402 P/S	47.3 L (50 qt US)

2.7 COOLING SYSTEM

Capacity	
756	37.5 L (40 qt US)
836, 856, 876	52.1 L (55 qt US)
936, 956, 976	60.3 L (63.7 qt US)

Radiator vertical flow, 6 row core with
3.5 fins per cm (9 fins per in.)

Radiator Area	
756	5 540 cm ² (859 in. ²)
836, 856, 876	5 540 cm ² (859 in. ²)
936, 956, 976	7 825 cm ² (1213 in. ²)

Fan	
756	660 mm (26 in.) dia, 8 blade
836, 856, 876	710 mm (28 in.) dia, 8 blade
936, 956, 976	813 mm (32 in.) dia, 8 blade

Pressure Cap 48 kPa (7 psi)

2.8 DIMENSIONS

Cab Height	3 195 mm (125 in.)
Overall Height	3 530 mm (139 in.) to top of exhaust stack
Overall Length	6 600 mm (257 in.)
Cab Width	1 050 mm (41 in.)
Wheelbase	3 300 mm (130 in.)
Nominal Turning Radius	
42° Articulation	4 333 mm (170.6 in.) to centerline of tractor

2.9 DRAWBAR

Type Swinging bar of 44.5 x 127 mm
(1.75 x 5 in.) steel. Replaceable
hardened bushings

Height 440 mm (17.3 in.) to top
of main member

2.10 ELECTRICAL SYSTEM

Type 12 V, negative ground

Alternator 12 V, 90 A, negative ground

Batteries

756 Two, 625 cold cranking amps at
-18° C (0° F)

836, 856, 876 Four, 625 cold cranking
amps at -18° C (0° F)

936, 956, 976 Four, 625 cold cranking
amps at -18° C (0° F)

Lights

756 Two headlamps, four worklights
two red taillights, two amber turn
signal lamps. Four additional
worklights, optional

836, 856, 876 Two headlamps, eight
worklights, two red taillights
two amber turn signal lamps

936, 956, 976 Two headlamps, eight
worklights, two red taillights
two amber turn signal lamps

Seven Pin Connector Rear frame mounted

2.11 ENGINES

756

Full Load Governed Speed 2 100 r/min

Idle Speed 1 000 r/min

Displacement 8.3 L (506 cubic in.)

Bore 114 mm (4.49 in.)

Stroke 135 mm (5.32 in.)

Max Power 142 kW (190 hp)
at 2 100 r/min

Max Torque 838 N.m (618 lbf ft)
at 1 500 r/min

Torque Rise 30%

Weight (wet) 636 kg (1 402 lb)

836, 856, 876

COMMON SPECIFICATIONS

Full Load Governed Speed 2 100 r/min

Idle Speed 1 000 r/min

Displacement 10 L (610 cubic in.)

Bore 125 mm (4.92 in.)

Stroke 136 mm (5.35 in.)

Weight (wet) 922 kg (2 030 lb)

836

Max. Power 156 kW (210 hp)
at 2 100 r/min

Max. Torque 926 N.m (683 lbf ft)
at 1 300 r/min

856

Max. Power 178 kW (240 hp)
at 2 100 r/min

Max. Torque 1 057 N.m (780 lbf ft)
at 1 300 r/min

876

Max. Power 208 kW (280 hp)
at 2 100 r/min

Max. Torque 1 213 N.m (895 lbf ft)
at 1 300 r/min

936, 956, 976

COMMON SPECIFICATIONS

Full Load Governed Speed 2 100 r/min

Idle Speed 1 000 r/min

Displacement 14 L (855 cubic in.)

Bore 140 mm (5.5 in.)

Stroke 152 mm (6 in.)

Weight (wet) 1 350 kg (2 970 lb)

936

Max. Power 230 kW (310 hp)
at 2 100 r/min

Max. Torque 1 432 N.m (1 056 lbf ft)
at 1 400 r/min

956

Max. Power 250 kW (335 hp)
at 2 100 r/min

Max. Torque 1 543 N.m (1 138 lbf ft)
at 1 400 r/min

976

Max. Power 268 kW (360 hp)
at 2 100 r/min

Max. Torque 1 587 N.m (1 170 lbf ft)
at 1 400 r/min

2.12 FRAME

Articulation 42° each side, 84° total

Oscillation ± 15° both ways

Articulation Lock Pin type

2.13 HYDRAULIC SYSTEM

756

Capacity 58 L (61.2 qt US)

Type Open centre steering circuit with
closed centre load sensing
implement circuit

Filtration Single mesh suction filter
and two separate 10 micron return filters

Implement Pump 45.4 cm³/rev (2.77 in.³/rev
displacement, 1.59 L/sec (25.2 gpm US) flow
at 2 100 r/min, high pressure standby
16.5/17.4 MPa (2 400/2 500 psi)

Implement Valve 2 spools, 4 way with float
and 15.51 MPa (2 250 psi) detents, separate
flow control for each spool

Hydraulic Couplers Lever type accepts
standard ASAE male tips

Steering Pump 46.7 cm³ (2.85 in.³)
displacement 1.63 L/sec (25.9 gpm US)
flow gear pump

Steering Valve 738 cm³/rev (45 in.³/rev)
4.5 turns lock to lock

Relief Valve Pilot operated, 15.85 MPa
(2 300 psi)

Lubricant HyGear 23

836, 856, 876

Capacity 58 L (61.2 qt US)

Type Open centre steering circuit with closed centre load sensing implement circuit

Filtration Single mesh suction screen and two separate 10 micron return filters

Implement Pump.....45.4 cm³/rev (2.77 in.³/rev displacement, 1.59 L/sec (25.2 gpm US) flow at 2 100 r/min, high pressure standby 16.5/17.4 MPa (2 400/2 500 psi)

Implement Valve 4 spools, 4 way with float and 15.51 MPa (2 250 psi) detents, separate flow control for each spool

Hydraulic Couplers Lever type accepts standard ASAE male tips

Steering Pump.....46.7 cm³ (2.85 in.³) displacement 1.63 L/sec (25.9 gpm US) flow gear pump

Steering Valve.....738 cm³/rev (45 in.³/rev) 4.5 turns lock to lock

Relief Valve Pilot operated, 15.85 MPa (2 300 psi)

Lubricant HyGear 23

displacement 1.65 L/sec (26.1 gpm US)
flow gear pump

Steering Valve.....983 cm³/rev (60 in.³/rev) 4.5 turns lock to lock

Relief Valve Pilot operated, 15.85 MPa (2 300 psi)

Lubricant HyGear 23

936, 956, 976

Capacity 55 L (58 qt US)

Type Open centre steering circuit with closed centre load sensing implement circuit

Filtration Single mesh suction filter and separate 10 micron return filters

Implement Pump.....45.4 cm³/rev (2.77 in.³/rev displacement, 1.55 L/sec (24.5 gpm US) flow at 2 100 r/min, high pressure standby 16.5/17.4 MPa (2 400/2 500 psi)

Implement Valve 4 spools, 4 way with float and 15.51 MPa (2 250 psi) detents, separate flow control for each spool

Hydraulic Couplers Lever type accepts standard ASAE male tips

Steering Pump.....42.7 cm³ (2.61 in.³)

2.14 STEERING

Type Open center

Flow 98 L/m (26 gpm US)

Relief Pressure 15.86 MPa (2 300 psi)

Steering Cylinders

756 Double acting, 76 x 420 mm (3.0 x 16.5 in.)

836, 856, 876 Double acting, 76 x 420 mm (3.0 x 16.5 in.)

936, 956, 976 Double acting, 89 x 420 mm (3.5 x 22.1 in.)

2.15 Three-Point Hitch

Category IVN/IIIW

Lift Capacity Estimated 9 840 kg (21 700 lb) 610 mm (24 in.) behind hitch points Estimated 9 620 kg (21 200 lb) at hitch points

Sway Blocks Standard

Hitch Type Claw hitch on lower links

Control Electronic position control with automatic and manual modes

2.16 TIRES

Refer to Tables 1-3 and 1-4.

2.17 TRANSMISSIONS

12-Speed Mechanical Transmission

Type 12 speed forward and 4 reverse constant mesh with sliding shift collars

Lubrication Independant system with pump, filter, cooler, low pressure sensor

Capacity 20.3 L (21.5 qt US)

Working Speeds 5 between 6.5 and 11.5 km/h

Lubrication Independant system with pump, filter, cooler

15-Speed Mechanical Transmission

Capacity 28.5 L (7.5 gal US)

Type 15-speed forward and five reverse
synchronized on five gear shifts
constant mesh with sliding shifting collars
on range H-M-L-R

Working Speeds See Table 1-2

1402 Powershift Transmission

Lubrication Independant system with pump, filter, cooler

Type 12-speed forward and three reverse
constant mesh with two torsional dampers,
hydraulic master clutch

Capacity 23.6 L (24.3 qt US)

Working Speeds See Table 1-2

Lubrication Independant system with pump, filter, cooler

1050 Powershift Transmission

Capacity 47.3 L (50 gal US)

Type 12-speed forward and three reverse
constant mesh with two torsional dampers,
hydraulic master clutch

Working Speeds See Table 1-1

TABLE 1-1: 936, 956 976 Ground Speeds

Speeds at 2 100 engine r/min; Tire loaded radius, 800 mm (31.5 in.)

Gear		12 Speed Mechanical		12 Speed Powershift	
		km/h	mph	km/h	mph
FORWARD	1	4.3	2.7	3.7	2.3
	2	5.1	3.2	4.5	2.8
	3	5.9	3.7	5.3	3.3
	4	6.9	4.3	6.4	4.0
	5	8.0	5.0	7.7	4.8
	6	9.3	5.8	9.1	5.7
	7	10.7	6.7	10.8	6.7
	8	12.3	7.7	12.9	8.0
	9	15.7	9.8	15.3	9.5
	10	18.2	11.3	18.3	11.4
	11	21.0	13.0	22.0	13.7
	12	24.5	15.2	26.0	16.2
REVERSE	1	5.8	3.6	4.7	2.9
	2	6.6	4.1	13.5	8.4
	3	7.7	4.8		
	4	8.9	5.5		

TABLE 1-2: Speed Chart

Speeds at 2 100 engine r/min; Tire loaded radius, 800 mm (31.5 in.)

GEAR FORWARD	756, 836 15 SPD MECH TRANS		756, 836, 856, 876 12 SPD MECH TRANS		756, 836, 856, 876 12 SPD POWERSHIFT	
	km/h	mph	km/h	mph	km/h	mph
1	2.8	1.8	4.0	2.5	3.1	1.9
2	3.3	2.0	4.8	3.0	3.8	2.4
3	3.7	2.3	5.5	3.5	4.6	2.9
4	4.4	2.8	6.5	4.0	5.6	3.5
5	5.3	3.3	7.5	4.7	6.9	4.3
6	5.9	3.7	8.7	5.5	8.4	5.2
7	6.8	4.2	10.1	6.3	9.1	5.7
8	8.1	5.0	11.6	7.2	11.2	6.9
9	9.2	5.7	14.6	9.6	13.6	8.4
10	10.9	6.8	17.1	10.6	16.6	10.3
11	13.8	8.6	19.7	12.2	20.2	12.6
12	15.8	9.8	23.0	14.3	24.8	15.4
13	18.8	11.7	NA	NA	NA	NA
14	21.4	13.3	NA	NA	NA	NA
15	25.4	15.8	NA	NA	NA	NA
GEAR REVERSE	km/h	mph	km/h	mph	km/h	mph
1	4.4	2.7	5.4	3.4	3.7	2.3
2	5.0	3.1	6.2	3.9	4.5	2.8
3	6.0	3.7	7.2	4.5	5.5	3.4
4	6.8	4.2	8.4	5.2	NA	NA
5	8.1	5.0	NA	NA	NA	NA

TABLE 1-3: Tires

SIZE	TYPE	TRACTOR MODEL						
		756	836	856	876	936	956	976
16.9 x 38	Singles Code R-1	●	●	●				
18.4 x 38	Singles Code R-1	●	●	●				
18.4 x 42	Singles Code R-1	●	●	●	●			
20.8 x 38	Singles Code R-1	●	●	●	●			
20.8 x 42	Singles Code R-1					●		
24.5 x 32	Singles Code R-1	●	●	●	●	●	●	●
30.5 x 32	Singles Code R-1	●	●	●	●	●	●	●
16.9 x 38	Singles Code R-2	●	●	●				
18.4 x 38	Singles Code R-2	●	●	●				
18.4 x 42	Singles Code R-2	●	●	●	●			
20.8 x 38	Singles Code R-2	●	●	●	●			
24.5 x 32	Singles Code R-2	●	●	●	●	●	●	●
30.5 x 32	Singles Code R-2	●	●	●	●	●	●	●

TABLE 1-4: Tires

SIZE	TYPE	TRACTOR MODEL						
		756	836	856	876	936	956	976
16.9 x 38	Duals Code R-1	•	•	•	•			
18.4 x 38	Duals Code R-1	•	•	•	•	•	•	•
18.4 x 42	Duals Code R-1	•	•	•	•	•	•	•
20.8 x 38	Duals Code R-1	•	•	•	•	•	•	•
20.8 x 42	Duals Code R-1					•	•	•
24.5 x 32	Duals Code R-1					•	•	•
30.5 x 32	Duals Code R-1					•	•	•
16.9 x 38	Duals Code R-2	•	•	•				
18.4 x 38	Duals Code R-2	•	•	•	•	•	•	•
18.4 x 42	Duals Code R-2	•	•	•	•			
20.8 x 38	Duals Code R-2	•	•	•	•	•	•	•
24.5 x 32	Singles Code R-2					•	•	•
30.5 x 32	Singles Code R-2					•	•	•
16.9 x 38	Duals Radial	•	•	•	•			
18.4 x 38	Duals Radial	•	•	•	•	•	•	•
18.4 x 42	Duals Radial	•	•	•	•	•	•	•
20.8 x 38	Duals Radial	•	•	•	•	•	•	•
20.8 x 42	Duals Radial					•	•	•
24.5 x 32	Duals Radial					•	•	•
30.5 x 32	Duals Radial					•	•	•

3 Towing and Transport

3.1 TOWING

1. Securely connect chain or cable to tractor drawbar or towing holes on front frame left and right sides only. The front towing holes are located just ahead of axle mounting pads.
2. If possible, let the engine run so full use can be made of the power steering.
3. Tow tractor slowly to allow operator full control.

NOTE

If engine cannot be started, pull tractor in a gradual arc across the field. Steering tractor will be difficult.

CAUTION



**DO NOT TOW TRACTOR
FASTER THAN 24 KM/H (15
MPH).**

4. If engine cannot be started, cover exhaust stack to prevent turbocharger from seizing.

3.2 TRANSPORTING

For long distances, transport the tractor on a trailer. Do the following when transporting is necessary:

1. Check with local authorities as to laws, permits and other information required to transport large machinery.
2. Use a trailer having a capacity of 18 tonnes (20 tons) to haul the tractor.
3. Install "wide load" signs and equip trailer with clearance lights to indicate load to other vehicles.

4. Equip trailer with a winch of minimum 9 tonnes (10 tons) capacity to pull tractor onto trailer.

5. Securely chain the tractor to the trailer to prevent tractor movement or tipping.
6. Block wheels and engage parkbrake to prevent tractor movement and engage articulation lock.
7. Inspect chains for cracks, gouges, wear, bent links and worn or bent hooks. Replace chains if necessary.

4 Hoists and Jacks

4.1 JACKS

1. Select a jack strong enough to carry the load. The minimum jack capacity required is 4.5 tonnes (5 tons).
2. Stabilize tractor by placing transmission into gear, engaging the parkbrake, and chocking wheels securely. Engage tractor articulation.
3. To prevent jackknifing, use two hoists or two jacks to lift the rear frame.
4. Secure jack under the axle tube, frame, or drawbar where it is strong enough to keep the jack from tipping, sinking, or shifting. Any additional blocking should be under the jack.
5. Jack up front and/or rear just enough to install steel safety stands under axle tubes or frames.
6. Check jack position after it has started to lift. Lower jack immediately if it starts to lean. Reset jack; block the tractor more securely and lift again.
7. Keep tractor stable by not raising it so high that it may slide off the jack.
8. Put support stands under the tractor. Lower the jack and let the tractor rest on the stands. This provides solid support for the tractor when the jack is removed.

4.2 HOISTS

1. Use a chain hoist and frame to lift the tractor. The minimum hoist capacity required is 9 tonnes (10 tons); 7257 kg (8 tons) for the A-frame or overhead support and 2721 (3 tons) for the support stands.
2. Protect yourself from injury during hoisting by observing the following precautions:
 - a. Do not stand on tractor as it is being lifted.
 - b. Keep hands away from pinch points where chain links tighten or the chain is against the tractor frame.
 - c. Do not let tractor swing and strike personnel or the frame as it leaves the ground.
 - d. Keep support stands nearby and place under tractor when the necessary height is reached.
 - e. Do not go under a tractor supported by a chain hoist. Put support stands under the tractor before working under it.
3. Extreme care must be exercised when hoisting, lowering or moving any transmission components.

5 Fuel, Fluids and Lubricants

WARNING

DO NOT HANDLE FUELS OR FILL FUEL TANKS NEAR AN OPEN FLAME, WHILE SMOKING OR UNDER ANY CONDITION THAT COULD CAUSE A SPARK.

DO NOT USE AN OPEN PAIL OR CAN FOR TRANSPORTING FUEL. USE ONLY AN APPROVED CONTAINER MANUFACTURED FOR THAT PURPOSE.



WARNING

IF CLOTHES ARE SPLASHED WITH FUEL, CHANGE IMMEDIATELY. FUEL SOILED CLOTHES ARE AN EXTREME FIRE HAZARD.

DISPOSE OF ALL FUEL SOAKED RAGS. NEVER LEAVE THEM LYING AROUND A WORK AREA WHERE THEY MAY BE EXPOSED TO FLAME, SPARK OR CIGARETTE SMOKING.



5.1 FUELS

Fuel quality is an important factor for dependable performance and satisfactory engine life. Suitable fuels must be clean, completely distilled, well refined and non-corrosive to the fuel system.

Cummins engines use No. 2 diesel fuels. They will also operate satisfactorily on No. 1 diesel fuels or other fuels within the following specifications:

1. Less than one percent sulphur content.
2. Sediment and water content less than 0.1 percent.
3. Cetane number of at least 40. A higher grade may be necessary at low temperatures or high altitudes.
4. Pour point below the lowest expected temperature.
5. Ash content of less than 0.02 percent.
6. Viscosity of 1.3 to 5.8 centistokes at 40° C (104° F).

Further details about fuel specifications are contained in the Cummins Engine Operator's Manual.

5.2 FLUIDS

5.2.1 Coolant

The tractor is factory filled with a 1:1 ratio of water to ethyl glycol antifreeze. The coolant should be a water/antifreeze mix. Use a good commercial grade glycol base antifreeze in the proportions recommended by the manufacturer. Do not use oil base or alcohol base antifreezes. Foaming and gelling could result and damage the cooling system.

IMPORTANT

Do not use calcium chloride solution; it is harmful to the cooling system.

5.2.2 Hydraulic Oil

Versatile® HyGear 23 for temperatures above 4° C (40° F); HyGear 24 for temperatures below 4° C (40° F).

NOTE

Do not mix brands or grades of oil in the hydraulic systems.

5.2.3 Transmission Fluid

Versatile® HyGear 23 for temperatures above 4° C (40° F); HyGear 24 for temperatures below 4° C (40° F). For 1050 P.S. transmission use only Ford New Holland Part No. 99000396 Powershift oil.

5.2.4 Brake Fluid

SAE J1703F brake fluid is recommended for all temperature usage.

5.3 LUBRICANTS

5.3.1 Engine Oil

Check engine oil daily. Do not mix brands or grades of oil. If it is necessary to change brands of oil, completely drain the engine and replace both filters before filling. Oil consumption may vary between 1 and 3 L (1 and 3 qt US) per day depending on loads and operating conditions.

Use SAE 10W30 SF/CD engine oil at temperatures from -25° to -10° C (-10° to 14°F). Use 15W40 or 20W40 SF/CD above -10° C (14°F).

5.3.2 Differentials

SAE 85W90 GL5 gear oil is recommended.

5.3.3 PTO Dropbox

Versatile® HyGear 23 is recommended above 4° C (40° F) and HyGear 24 below 4° C (40° F).

5.3.4 Grease

SAE high temperature multipurpose grease is recommended for all pressure grease fittings.

6 Lubrication

6.1 GENERAL

Figures 1-1, 1-2, and 1-3 show the tractor lubrication points. Refer to subsection 5, FUEL, FLUIDS AND LUBRICANTS, for capacities and requirements. Refer to Table 1-6 for a list of petroleum products for use in the tractor.

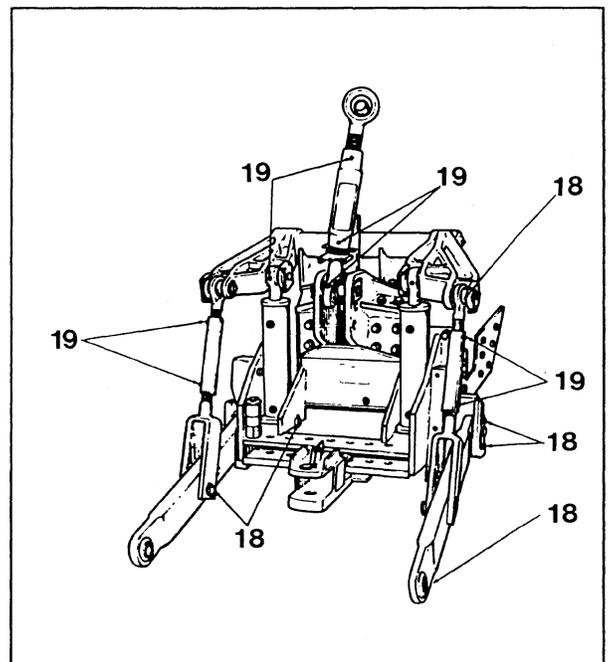


FIGURE 1-1: Three-Point Hitch Lubrication Points

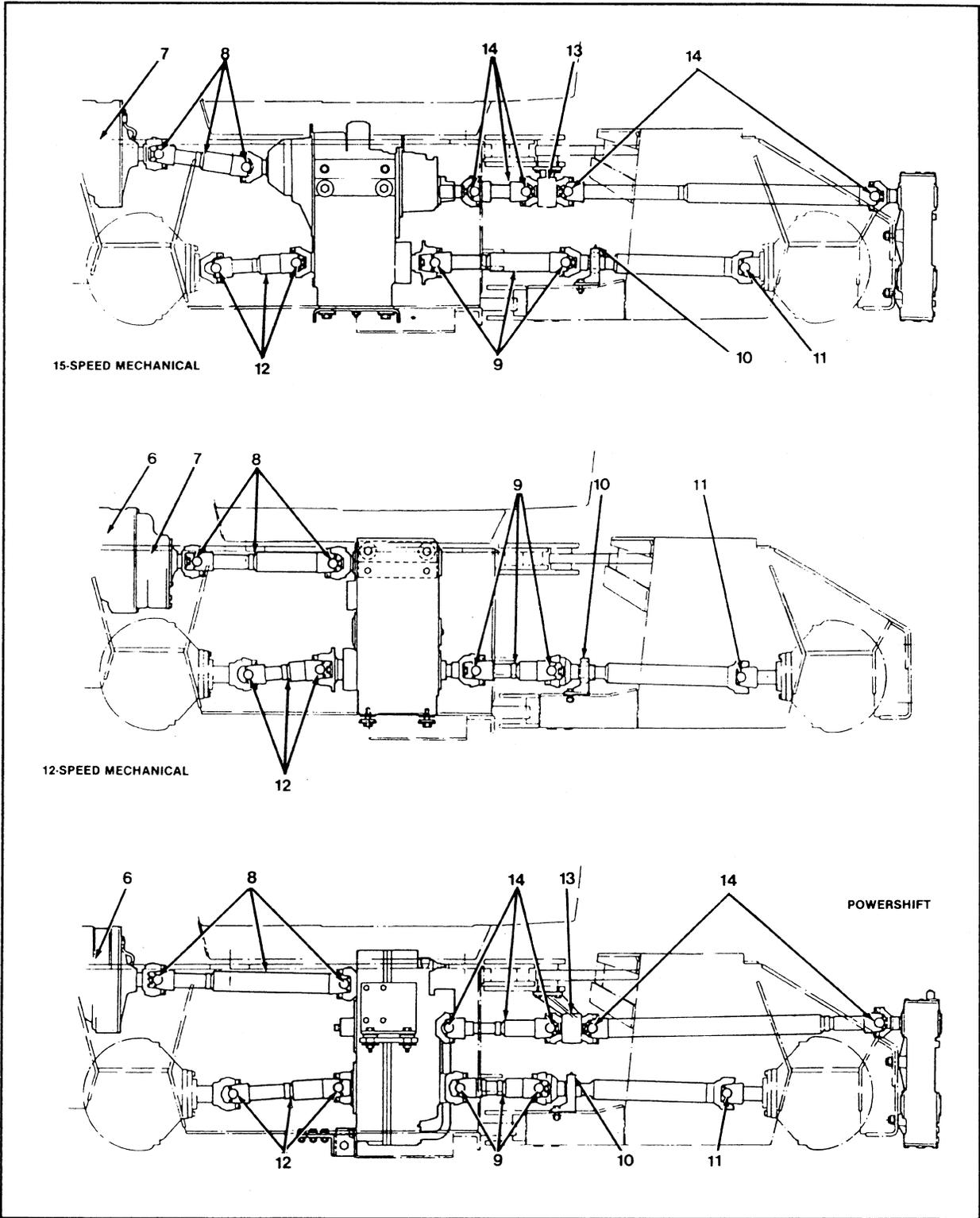


FIGURE 1-2: Driveline Lubrication Points

Service intervals recommended in this manual are based on operation under average conditions. When operating the tractor in severe heat, cold, dust or humidity, service the tractor more frequently.

TABLE 1-5: Fluids, Fuels and Lubrication Schedule

	A/R	10 HRS	50 HRS	200 HRS	400 HRS	1 YR	LUB	NO OF PTS	LUB PTS
Check engine coolant level		•	•	•	•	•			
Check engine oil level		•	•	•	•	•	A		1
Grease front hydraulic pump drive		•	•	•	•	•	E	1	
Grease clutch release bearing, mech. transmission		•	•	•	•	•	F	1	6
Grease clutch cross shaft, mech. trans.			•	•	•	•	E	2	7
Grease torsional damper bearing, pwrshft trans.			•	•	•	•	E	1	6
Lubricate three-point hitch		•	•	•	•	•	E	9	14
Lubricate driveline U-joints			•	•	•	•	E	11	8,9,11,12
Lubricate driveline steady bearing			•	•	•	•	E	1	10
Lubricate steering cylinder pivots			•	•	•	•	E	4	3
Lubricate frame pivots			•	•	•	•	E	2	5
Lubricate drag link pivot bearings			•	•	•	•	E	4	4
Check transmission oil level			•	•	•		B		
Check hydraulic oil level			•	•	•		B		
Check differential oil level			•	•	•	•	C	2	
Check axle/planetary oil level			•	•	•	•	C	4	
Lubricate three-point hitch pins					•	•	E	10	13,14
Check engine oil and filters				•	•	•	A		2
Change transmission return filter				•	•	•			
Change DCA service filter				•	•				
Change hydraulic return filters				•	•	•			
Check brake fluid level				•	•	•	D		
Change differential/planetary oil		•			•	•	C	4	
Change transmission oil and filter, wash screen	•				•	•	B		
Grease door and window hinge pins						•	E	5	
Change hydraulic oil					•	•	E		
Change coolant. Install precharge element						•			
Gearshift lever base, mech. transmission						•	E	1	

1. Change oil after the first 30 hours of operation and every 200 hours thereafter.
2. Change filters after the first 50 hours of operation and every 200 hours thereafter.
3. Change oil after 30 hours of operation and every 400 hours thereafter.
4. Change oil and filter after the first 30 hours of operation and every 200 hours thereafter.
5. See Table 1-6, Lubricant Brand Equivalency Chart.

TABLE 1-6: Lubricant Brand Equivalency Chart

		VERSATILE	IMPERIAL	SHELL	TEXACO	GULF	CLASSIFICATION	
A	Engine		Essolube XD3	Rotella T	Ursa Super Plus	Low Ash Super Duty 15W40	Factory fill is SAE 15W40 SF/CD above 4° C (40° F)	
B	Mechanical Transmission Hydraulic Oil	HyGear 23	Hydraul 56	Donax TD	Texamatic TDH	Duratran	SAE 20 SF/CD above 4° C (40° F)	
		HyGear 24	Hydraul 50	Donax TDL			SAE 5W20 below 4° C (40° F)	
	1050 Powershift Transmission	Powershift Transmission Oil FNH # 99000396	There are no equivalents					SAE 10W
	1402 Powershift Transmission	HyGear 23					SAE 30W Above -1° C (30° F)	
		Hygear 24	Hydraul 50				Below -1° C (30° F)	
C	Differential/ Planetary		Gear Oil GX	Spirax HD	Multigear EP	Gearlube	SAE 85W140 GL5 above 0° C (32° F) SAE 80W90 below 0° C (32° F)	
D	Brake Fluid		Atlas Extra Heavy Duty 450	Super Heavy Duty Brake Fluid		H.D. Brake Fluid	SAE J1703F All weather conditions	
E	Grease		Unitol	Alvania EP2	Marfak AP	Super Crown EP2	SAE multipurpose grease, high temp All weather conditions	
F	Clutch Release Bearing		Unirex EP2				Extreme pressure conditions, lithium complex grease	

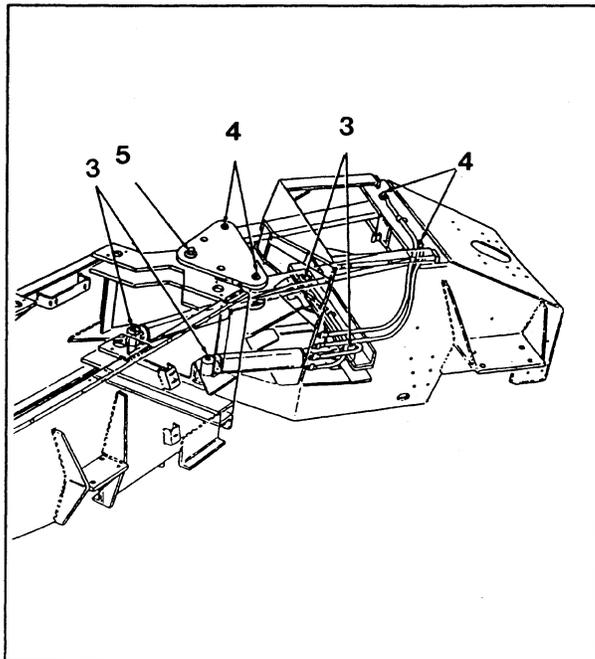


FIGURE 1-3: Frame Pivot Area Lubrication Points

7 Storage

7.1 GENERAL

When the tractor is not to be used for several months, it must be prepared for storage to prevent component damage. Prepare a kit for the storage period including plastic bags and tape to seal openings, paint for scratched surfaces, grease and rust preventative, clean rags and various fluids to refill all systems to required levels.

7.2 TRACTOR STORAGE

1. Change hydraulic oil and filters.
2. Change transmission oil and filter.
3. Change engine coolant.
4. Drain and flush gear oil from differentials and planetary gear housings. Fill with new oil.
5. Change engine oil and filters.
6. Drain and flush oil from PTO dropbox. Fill with new oil.

7. Start engine. While the engine is warming up, operate the transmission, hydraulic system, steering and differentials to distribute new lubricant to components.
8. Run the engine until the coolant temperature is at least 70° C (160° F). Shielding the radiator may be necessary to achieve this temperature. Stop engine.
9. Clean tractor of all debris, dirt and accumulated grease.
10. Drive tractor to storage location.
11. Relieve tension from alternator, compressor and fan belts.
12. Coat all exposed hydraulic cylinder shafts with grease or a rust preventative.
13. Using plastic bags and tape, seal the following openings: air cleaner inlet, exhaust muffler, fuel tank breather and cab air intake filter.
14. Touch up all scratches or chips with VERSATILE® paint.
15. Block up tractor to remove weight from tires. Remove dual wheels.
16. Cover tires if they will be exposed to heat and/or direct sunlight.
17. If tractor is to be stored outside, cover with a waterproof canvas or other protective material.

7.3 STORING BATTERIES

WARNING



AVOID SMOKING NEAR BATTERY CHARGING AREA DURING OR FOR ONE HOUR FOLLOWING CHARGING.

1. Maintenance free batteries do not require charging before or during storage. Under

normal conditions, storage life will be 12 months before recharging.

2. Check battery charge on sight glass. If required, charge batteries. See Section 8, ELECTRICAL SYSTEM.
3. Remove batteries from tractor and store in a cool, dry weatherproof area.

7.4 REMOVAL FROM STORAGE

1. Remove protective covering from tractor tires and seals from air cleaner inlet, exhaust muffler, fuel tank breather and cab air intake filter.
2. Inflate tires to recommended pressure.
3. Remove blocks and lower tractor onto tires.
4. Install fully charged batteries. Tighten cable clamps at both ends.
5. Tension alternator, compressor and fan drive belts.
6. Check fluid levels in engine crankcase, axles and differentials, hydraulic reservoir, PTO dropbox, transmission, master brake cylinder reservoir and engine coolant radiator.
7. Drain sediment from fuel tanks.
8. If fuel filter is changed during or after storage, ensure filter, pump and lines are primed. Refer to Section 2, ENGINE SYSTEMS.

7.5 ENGINE STARTUP AFTER STORAGE

— CAUTION —

**BEFORE STARTING ENGINE,
ENSURE ALL CONTROLS ARE
IN NEUTRAL AND PARK-
BRAKE ENGAGED.**



— CAUTION —

**OPERATE CONTROLS FROM
OPERATOR'S SEAT ONLY.**

**STOP ENGINE BEFORE DOING
ANY WORK ON THE TRACTOR.**

KEEP ALL SHIELDS IN PLACE.

**DO NOT OPERATE TRACTOR
IN A CLOSED BUILDING.**



Initial startup can put abnormal loads on the engine cranking system. To reduce cranking loads do the following:

1. Electrical cables must be clean, tight and in good condition. They should be cleaned at all connection points, before starting the tractor.
2. Do not crank engine longer than 30 seconds. Allow two minutes for starter motor to cool between cranking cycles.
3. Batteries must be fully charged. Check sight glass for green dot. If green dot is visible, batteries are fully charged. If not, see Section 8, ELECTRICAL SYSTEM.
4. Use cold start aid if ambient temperature is below 10° C (50° F) and engine is cold.
5. Avoid high r/min after engine starts. Bearings are dry after storage and can be damaged by high r/min.
6. If new batteries are installed, they must be of equivalent or higher capacity than the original batteries.
7. Tighten all drive belts. Alternator belt must be tight and in good condition to keep battery charged.
8. Idle tractor until operating temperature is reached.
9. If engine does not start within 30 seconds, assuming cold start aid is used as neces-

sary and cranking speed is ample, engine is not likely receiving fuel.

10. If white smoke comes from exhaust, engine is receiving fuel but more cold start aid is needed.
11. If exhaust is clear, engine is not receiving fuel. Check the following:
 - a. Dip check fuel tank through the tank filler neck.
 - b. Fuel line obstruction or loose connections.
 - c. Fuel filter for plugging.
 - d. Operation of fuel pump solenoid or fuel shutoff cable.
 - e. Fuel pump operation for delivery of fuel.
 - f. Fuel is the correct grade for the ambient temperature.

SECTION 2

ENGINE SYSTEMS

1 Introduction

1.1 SPECIFICATIONS AND DATA

1.1.1 756

Engine

Full load Governed Speed 2 100 r/min
 Idle Speed 1 000 r/min
 Bore 114 mm (4.49 in.)
 Stroke 135 mm (5.32 in.)
 Compression Ratio 16.5:1
 Displacement 8.3 L (506 cubic in.)
 Firing Order 153624
 Max. Power 142 kW (190 hp) at 2 100 r/min
 Max. Torque 838 N.m (618 lbf ft) at 1 500 r/min
 Oil Capacity 19 L (20 qt US)
 Torque Rise 30%
 Weight (wet) 636 Kg (1 402 lb)

Cooling System

Capacity 37.5 L (40 qt US)
 Fan 660 mm (26 in.) dia 8 blade
 sucker type belt driven
 Pressure Cap 48 Kpa (7 psi)
 Radiator 5 540 cm² (859 in.²) 6 row core
 with 3.5 fins per cm (9 fins per in.)
 Surge Tank 14.5 L (15 qt US) with pressure
 cap and low coolant
 level probe

Exhaust System

Type Single pipe through front hood
 with integral vacuum aspirator
 for engine precleaner

Fuel Tank

Capacity Total 933 L (246 gal US)
 Usable 887 L (234 gal US)

Type .. Two low mounted interconnected tanks
 filler and drain on each tank, fuel level
 indicator on right tank, duplicate
 electrical gauge on instrument panel
 Remote breather on cab right side

1.1.2 836, 856, 876

Engine

Full Load Governed Speed 2 100 r/min
 Idle Speed 1 000 r/min
 Displacement 10 L (610 cubic in.)
 Firing Order 153624
 Bore 125 mm (4.92 in.)
 Stroke 136 mm (5.35 in.)
 Oil Capacity 26 L (27 qt US)
 Weight (wet) 922 Kg (2 030 lb)

836

Max. Power 156 kW (210 hp) at 2 100 r/min
 Max. Torque 926 N.m (683 lbf ft) at
 1 300 r/min

856

Max. Power 178 kW (240 hp) at 2 100 r/min
 Max. Torque 1 057 N.m (780 lbf ft) at
 1 300 r/min

876

Max. Power 208 kW (280 hp) at 2 100 r/min
 Max. Torque 1 213 N.m (895 lbf ft) at
 1 300 r/min

Cooling System

Capacity 52.1 L (55 qt US)
 Fan 710 mm (28 in.) dia 8 blade
 sucker type belt driven
 Pressure Cap 48 Kpa (7 psi)
 Radiator 5 540 cm² (859 in.²) 6 row core
 with 3.5 fins per cm (9 fins per in.)

Surge Tank 14.5 L (15 qt US) with pressure cap and low coolant level probe

Exhaust System

Type Single oval muffler on right side with integral vacuum aspirator for engine precleaner

Fuel Tank

Capacity Total 933 L (246 gal US)
Usable 887 L (234 gal US)

Type .. Two low mounted interconnected tanks filler and drain on each tank, fuel level indicator on right tank, duplicate electrical gauge on instrument panel Remote breather on cab right side

1.1.3 936, 956, 976

Engine

Full load Governed Speed 2 100 r/min

Idle Speed 1 000 r/min

Firing Order 153624

Bore 140 mm (5.5 in.)

Stroke 152 mm (6 in.)

Displacement 14 L (855 cubic in.)

Oil Capacity 37 L (39.2 qt US)

Weight (wet) 1 350 Kg (2 970 lb)

Model 936

Type Cummins NTA-855-A-310

Maximum horsepower 230 kW (310 hp)
at 2 100 r/min

Peak Torque 1 432 N.m (1 056 lbf ft)
at 1 400 r/min

Model 956

Type Cummins NTA-855-A-335

Maximum horsepower 250 kW (335 hp)
at 2 100 r/min

Peak Torque 1 543 N.m (1 138 lbf ft)
at 1 400 r/min

Model 976

Type Cummins NTA-855-A-360

Maximum horsepower 268 kW (360 hp)
at 2 100 r/min

Peak Torque 1 587 N.m (1 170 lbf ft)
at 1 400 r/min

Cooling System

Capacity 60.3 L (63.7 qt US)

Fan 813 mm (32 in.) dia 8 blade sucker type belt driven

Pressure Cap 48 Kpa (7 psi)

Radiator 7 825 cm² (1 213 in.²) 6 row core with 3.5 fins per cm (9 fins per in.)

Surge Tank 14.5 L (15 qt US) with 48 kPa (7 psi) pressure cap and low coolant level probe

Exhaust System

Muffler One 210 x 290 mm (8.25 x 11.5 in.)

Fuel Tank

Capacity Total 1 085 L (286 gal US)
Usable 1 024 L (270 gal US)

Type .. Two low mounted interconnected tanks filler and drain on each tank, fuel level indicator on right tank, duplicate electrical gauge on instrument panel Remote breather is above tank

2 Engine Replacement

2.1 SPECIAL TOOLS AND EQUIPMENT

1. Chain hoist, 1 590 kg (3 500 lb) capacity
2. Engine stand
3. Hose plugs

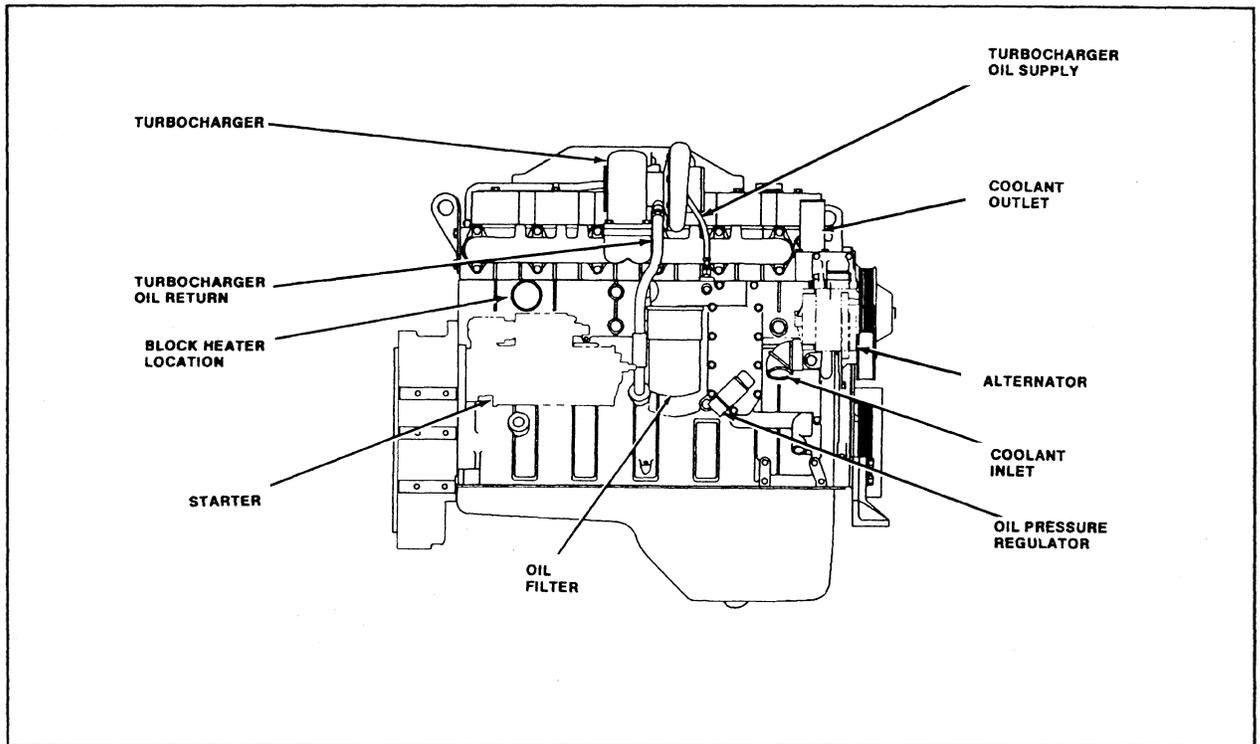


FIGURE 2-1: Engine Right Side

2.2 MODEL 756 ENGINE REMOVAL

— CAUTION —

SET PARKBRAKE, CHOCK WHEELS AND ENGAGE ARTICULATION LOCK BEFORE SERVICING TRACTOR.

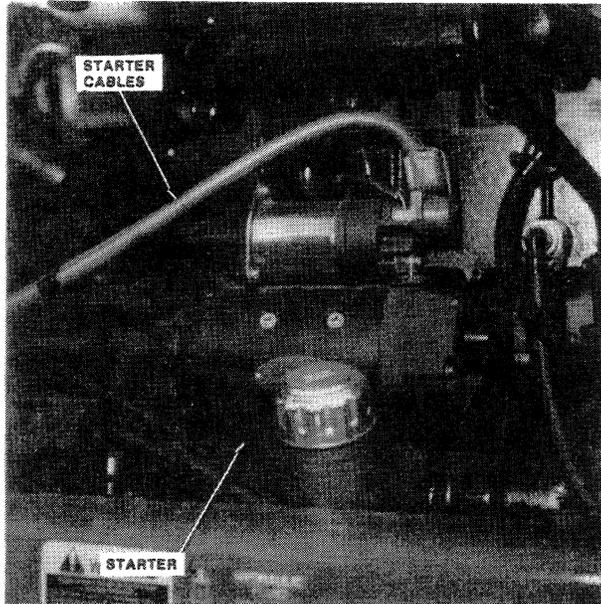
DISCONNECT BATTERY CABLES FIRST TO PREVENT ELECTRICAL DAMAGE FROM OCCURRING.



1. Drain engine oil from pan. Allow 10 min to drain completely and install plug. Tighten plug securely.
2. Drain cooling system thoroughly.

3. Remove flange screws securing fan guards and remove fan guards.
4. Remove tractor hood. Refer to Section 10, STRUCTURES.
5. Remove clamps securing exhaust pipe to turbocharger and remove exhaust pipe. Cover turbocharger opening (Figure 2-1).
6. Remove clamps securing hose between exhaust pipe and air cleaner housing and remove hose.
7. Remove clamps securing air intake tubing to turbocharger, air intake housing and nose piece and remove air intake tubing.
8. Remove flange screws and nuts securing air cleaner housing to frame and remove air cleaner housing.
9. Label and remove hoses from surge tank and radiator to engine. Tie away hoses.

10. Label and remove heater supply and return hoses from engine. Tie away hoses.



**FIGURE 2-2: Starter Wiring
756 Models**

11. Remove cotterpins securing throttle linkage clevises to fuel pump. Remove nuts securing throttle cables to brackets, remove clips and remove cables. Tie cables away.
12. Label and disconnect fuel lines to lift pump and fuel injection pump. Tie away hoses.
13. Remove tension from alternator and fan drive belt by prying up on automatic tensioner with prybar. Remove drive belt.
14. Label and remove wires from rear of alternator. Tie away wires.
15. Remove capscrews securing alternator to mounting bracket and remove alternator.
16. Label and remove wires and cable from starter motor. Tie away wires and cables.
17. Loosen compressor drive belts and remove belts.
18. Unscrew air conditioning high and low pressure switches from service ports on compressor rear and tie away.

19. Label and disconnect wires to compressor and tie wires away.
20. Remove capscrews and nuts securing compressor to mounting bracket and carefully tie compressor with hoses still connected to outside of lower front frame.

CAUTION

AIR CONDITIONING HOSES ARE UNDER PRESSURE EVEN WHEN THE SYSTEM IS NOT RUNNING.

DO NOT DISCONNECT HOSES, SYSTEM MUST REMAIN CLOSED TO PREVENT CONTAMINATING THE SYSTEM OR DISCHARGING THE REFRIGERANT.



BE ALERT

21. Label and disconnect wire to pressure switch on hydraulic tandem pump.
22. Remove capscrews securing hydraulic tandem pump to engine and carefully tie pump with hoses still connected to outside of lower front frame.

IMPORTANT

Do not disconnect hydraulic hoses from pump to prevent contaminating hydraulic system.

23. Remove capscrew securing cold start thermoguard sensor to engine block and tie away sensor.
24. Remove cold start atomizer from cylinder head and tie away.
25. Label and disconnect wire to magnetic pickup on left side of engine flywheel housing.
26. Remove engine oil pressure sensor from engine block left side and tie away.

27. Remove engine coolant temperature sensor from engine left side and tie away.
28. Disconnect clevises securing clutch linkage to clutch and tie away.
29. Remove capscrews securing universal joint bearing caps on driveline at clutch and disconnect driveline.

IMPORTANT

Ensure needle bearings do not fall out of bearing caps.

30. Remove clutch lubrication hoses from clutch housing and tie away.
31. Position hoist over engine and securely install chain hoist to lift eyes at front and rear of engine. Remove slack from chains.

CAUTION



ENSURE CHAIN HOIST IS SECURE AND CHAINS WILL NOT SLIP OR SERIOUS PERSONAL INJURY AND/OR MACHINE DAMAGE MAY OCCUR.

32. Remove capscrews and nuts securing engine and mounts to tractor frame.
33. Carefully lift engine slightly and remove engine mounts and washers with a piece of wood.

CAUTION



DO NOT PUT HANDS BETWEEN ENGINE AND TRACTOR FRAME.

IMPORTANT

Raise engine slowly to prevent damage.

34. Carefully lift engine and mount to engine stand. Guide engine during lifting to avoid striking steering valve.

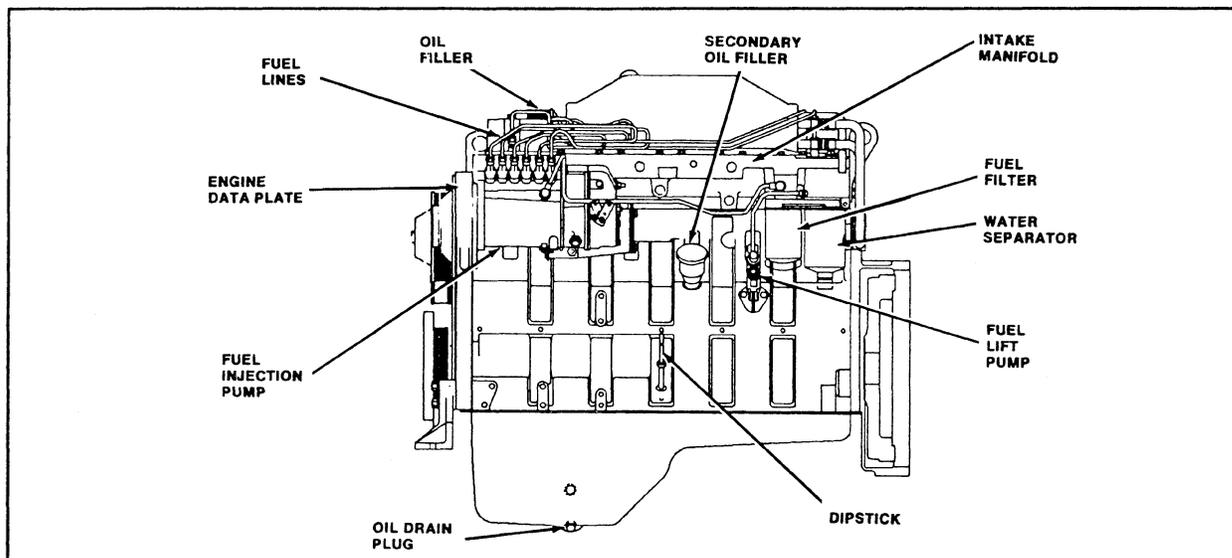


FIGURE 2-3: Engine Left Side

2.3 MODEL 756 ENGINE INSTALLATION

1. Position new engine isolator mounting pads in holes on tractor frame engine mounting points.
2. Position engine over front frame and lower into position taking care not to damage any firewall mounted components, ensure engine mounts, mounting pads and tractor frame holes are properly aligned.
3. Secure engine to tractor frame with capscrews, washers and nuts torqued to 380 N.m (280 lbf ft).
4. Connect input driveline to clutch with capscrews torqued to 110 N.m (80 lbf ft).
5. Install clutch lubrication hoses to clutch housing.
6. Connect clevises securing clutch linkage to clutch. Use new cotterpins only.
7. Connect wire to magnetic pickup on left side of engine flywheel housing.
8. Install engine oil pressure sensor to engine block left side.
9. Install engine coolant temperature sensor to engine left side.
10. Install cold start thermoguard sensor to engine with capscrew tightened securely.
11. Install cold start atomizer to cylinder head. Tighten fitting.
12. Install hydraulic tandem pump to engine accessory drive with capscrews tightened securely.
13. Connect wire to pressure switch on hydraulic tandem pump.
14. Install compressor to mounting bracket with capscrews and nuts torqued to 40 N.m (30 lbf ft).
15. Install compressor drive belts.
16. Install air conditioning high and low pressure switches to original positions on service ports on compressor rear.
17. Connect wires to compressor.
18. Install wires and cable to starter motor. Tighten connections securely.
19. Install alternator to mounting bracket with capscrews torqued to 40 N.m (30 lbf ft).
20. Pry up on automatic belt tensioner with prybar and install alternator drive belt.
21. Install wires to rear of alternator. Tighten connections securely.
22. Connect fuel lines to lift pump and fuel injection pump. Tighten fittings securely.
23. Install throttle cables to brackets with clips and nuts. Tighten nuts securely.
24. Install throttle linkage clevises to fuel pump. Use new cotterpins.
25. Install heater supply and return hoses to engine. Tighten hoses clamps securely.
26. Install hoses from surge tank and radiator to engine. Tighten hose clamps and fittings securely.
27. Install air cleaner housing to frame with flange screws and nuts tightened securely.
28. Install air intake tubing to turbocharger, air intake housing and nose piece. Tighten clamps securely.
29. Install exhaust pipe to turbocharger. Tighten clamps securely.
30. Install hose between exhaust pipe and air cleaner housing. Tighten hose clamps securely.
31. Install tractor hood. Refer to Section 10, STRUCTURES.

IMPORTANT

Ensure input driveline is in phase or severe driveline vibration may occur.