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# TT45A, TT50A REPAIR MANUAL COMPLETE CONTENTS

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The following pages are the collation of the contents pages from each section and chapter of the TT45A, TT50A Repair manual. Complete Repair part # 87655297.

The sections used through out all New Holland product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the TT45A, TT50A Tractors.

**SECTION 00 - GENERAL**

**Chapter 1 - General**

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## GENERAL INSTRUCTIONS

—————  **WARNING**  —————

All maintenance and repair work described in this manual must be performed exclusively by NEW HOLLAND service technicians in strict accordance with the instructions given and using any specific tools necessary.

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—————  **WARNING**  —————

Anyone who performs the operations described herein without strictly following the instructions is personally responsible for resulting injury or damage to property.

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—————  **WARNING**  —————

The Manufacturer and all organizations belonging to the Manufacturer's distribution network, including but not restricted to national, regional or local distributors, will accept no responsibility for personal injury or damage to property caused by abnormal function of parts and/or components not approved by the Manufacturer, including those used for maintenance and/or repair of the product manufactured or marketed by the Manufacturer. In any case, the product manufactured or marketed by the Manufacturer is covered by no guarantee of any kind against personal injury or damage to property caused by abnormal function of parts and/or components not approved by the Manufacturer.

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### IMPORTANT NOTICE

All maintenance and repair operations described in this manual should be carried out exclusively by the authorized workshops. All instructions detailed should be carefully observed and special equipment indicated should be used if necessary.

Everyone who carries out service operations described without carefully observing these prescriptions will be directly responsible of deriving damages.

### SHIMMING

At each adjustment, select adjusting shims, measure them individually using a micrometer and then sum up recorded values. Do not rely on measuring the whole shimming set, which may be incorrect, or on the rated value indicated for each shim.

### ROTATING SHAFT SEALS

To correctly install rotating shaft seals, observe the following instructions:

- Let the seal soak into the same oil as it will seal for at least half an hour before mounting;
- Thoroughly clean the shaft and ensure that the shaft working surface is not damaged;
- Place the sealing lip towards the fluid. In case of a hydrodynamic lip, consider the shaft rotation direction and orient grooves in order that they deviate the fluid towards the inner side of the seal;
- Coat the sealing lip with a thin layer of lubricant (oil rather than grease) and fill the gap between the sealing lip and the dust lip of double lip seals with grease;
- Insert the seal into its seat and press it down using a flat punch. Do not tap the seal with a hammer or a drift;
- Take care to insert the seal perpendicularly to its seat while you are pressing it. Once the seal is settled, ensure that it contacts the thrust element, if required;
- To prevent damaging the sealing lip against the shaft, place a suitable protection during installation.

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## **O RINGS**

Lubricate the O rings before inserting them into their seats. This will prevent the O rings from roll over and twisting during mounting, which will jeopardize sealing.

## **SEALERS**

Apply silicone/gasket eliminator over the mating surfaces marked with an X.

Before applying the sealer, prepare the surface as follows:

- Remove possible scales using a metal brush;
- Thoroughly degrease the surfaces using one of the following cleaning agents: trichlorethylene, diesel fuel or a water and soda solution.

## **BEARINGS**

It is advisable to heat the bearings to 80° to 90°C (176° to 194°F) before mounting them on their shafts and cool them down before inserting them into their seats with external tapping.

## **SPRING PINS**

When mounting split socket spring pins, ensure that the pin notch is oriented in the direction of the effort to stress the pin.

Spiral spring pins should not be oriented during installation.

# SAFETY

## ⚠ PRECAUTIONARY STATEMENTS ⚠

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions **before** driving, operating or servicing the tractor. Equipment should be operated only by those who are responsible and instructed to do so.

### THE TRACTOR

1. Read this Operator's Manual carefully before using the tractor. Lack of operating knowledge can lead to accidents.
2. Only allow properly trained and qualified persons to operate the tractor.
3. To prevent falls, use the handrails and step plates when getting on and off the tractor. Keep steps and platform clear of mud and debris.
4. Replace all missing, illegible or damaged safety decals.
5. Keep safety decals free of dirt or grime.
6. Do not permit anyone but the operator to ride on the tractor. It is unsafe for extra passengers to travel.
7. Keep children away from the tractor and farm machinery at all times.
8. Do not modify or alter or permit anyone else to modify or alter the tractor or any of its components or any tractor function without first consulting your dealer.
9. Install all guards before starting the engine or operating the tractor.
10. Tractor wheels are very heavy. They need to be handled with care. Ensure that they are stored at a place where they do not fall down & cause injury.

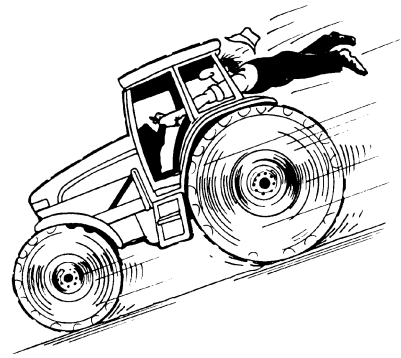


## DRIVING THE TRACTOR

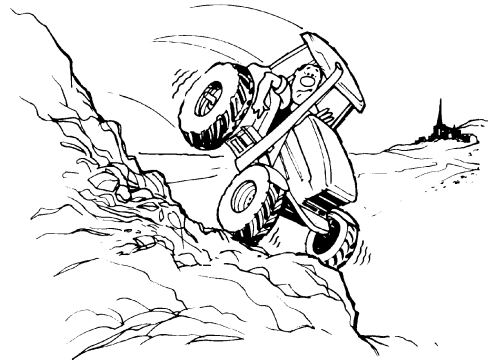
1. Always sit in the driver's seat while starting or driving the tractor.
2. When driving on public roads, have consideration for other road users. Pull in to the left side of the road occasionally to allow any following traffic to pass. Do not exceed the legal speed limit set for agricultural tractors.
3. Dip the tractor lights when meeting a vehicle at night. Make sure the lights are adjusted to prevent blinding the driver of an oncoming vehicle.
4. Reduce speed before turning or applying the brakes. Brake both wheels simultaneously when making an emergency stop. Ensure that both brake pedals are locked together when travelling at road speeds or when on public roads ensure correct operation of trailer brakes.



5. Use extreme caution and avoid hard application of the tractor brakes when towing heavy loads at road speeds.
6. Keep the tractor in the same gear when going downhill as would be used when going uphill. Do not coast or freewheel down hills.



7. Any towed vehicle whose total weight exceeds that of the towing tractor must be equipped with brakes for safe operation.
8. Never try to apply the differential lock when turning. When engaged, the differential lock will prevent the tractor from turning.
9. Always check overhead clearance, especially when transporting the tractor. Watch where you are going, especially at row ends, on roads and around trees and low overhanging obstacles.
10. To avoid overturns, drive the tractor with care and at speeds compatible with safety, especially when operating over rough ground, when crossing ditches or slopes and when turning corners.



11. Use extreme caution when operating on steep slopes.
12. If the tractor becomes stuck or the tires are frozen to the ground, reverse the tractor out to prevent overturning.

**SECTION 10 - ENGINE**

**Chapter 1 - Engine**

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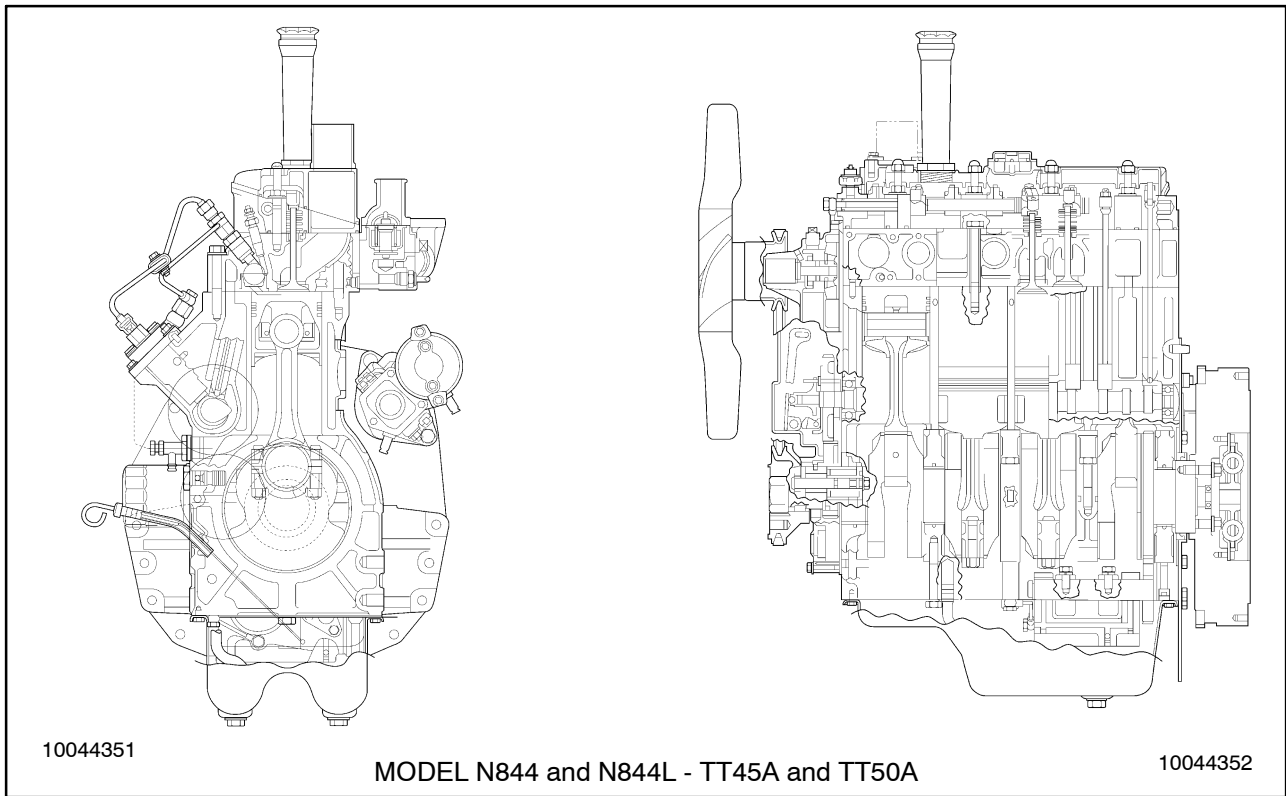
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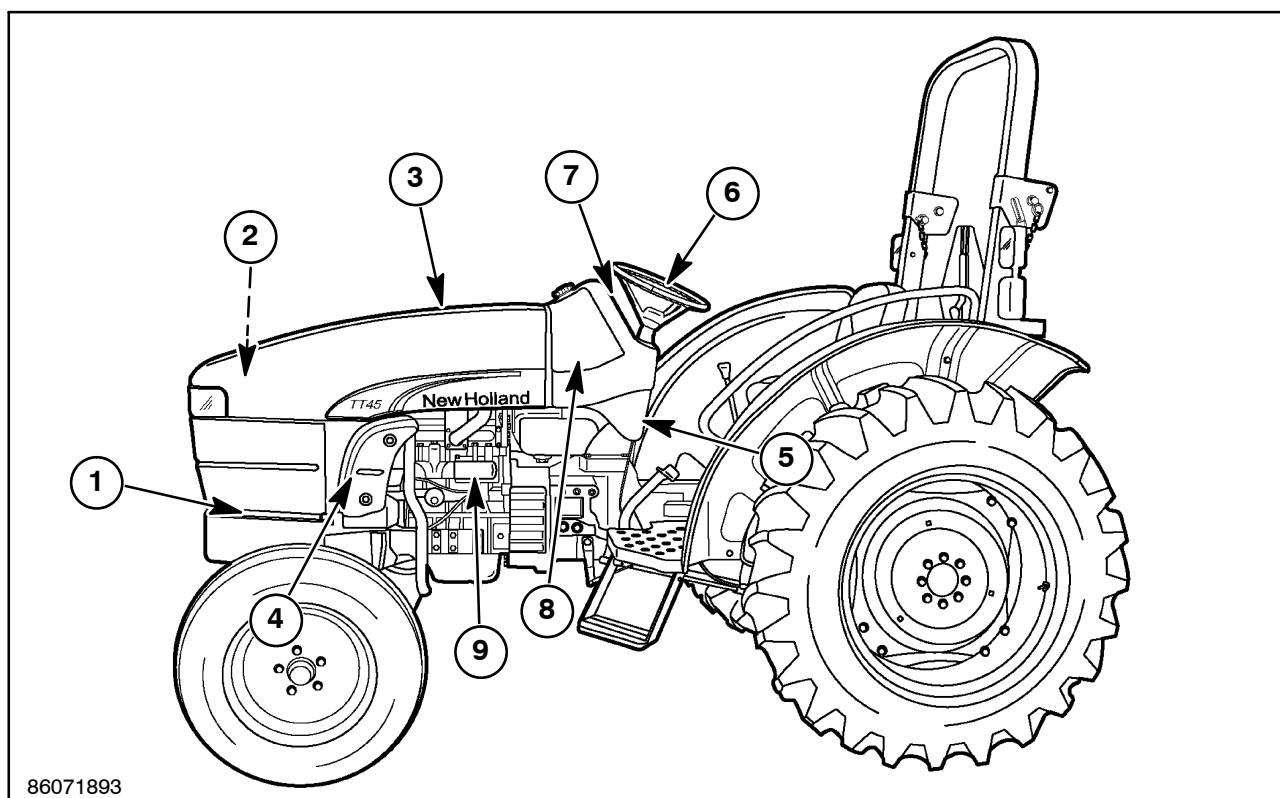
**SPECIFICATIONS**

<b>GENERAL</b>	<b>TT45A</b>	<b>TT50A</b>
Engine Model	N844	N844L
Number of Cylinders	4	4
Bore x Stroke	84 x 90 mm (3.31 x 3.54 in)	84 x 100 mm (3.31 x 3.94 in)
Displacement	1995 cc (121.7 cu. in.)	2216 cc (135.2 cu. in.)
Compression Ratio	22.5:1	22.4:1
Rated Speed (rpm)	2600	2800
Gross Engine Horsepower	29.8 kw (40 Hp)	33.5 kw (45 Hp)
PTO Horsepower at 2250 Engine and 766 PTO rpm	26.1 kw (35.0 Hp)	31.3 kw (42.2 Hp)
Firing Order	1-3-4-2	1-3-4-2
Low Idle Speed	1050 rpm	1050 rpm
Maximum No-Load Speed	2855 rpm	3000 rpm
Cylinder Arrangement	In-Line Vertical	In-Line Vertical
Valve Arrangement	Overhead	Overhead
Compression Pressure at 200 rpm (cylinder speed)	29.4 ± 1.8 bar (427 ± 50 psi)	29.4 ± 1.8 bar (427 ± 50 psi)
Variation between cylinders	1.8 bar (50 psi)	1.8 bar (50 psi)
<b>CYLINDER BLOCK</b>	<b>N844</b>	<b>N844L</b>
<b>Bore</b>		
Standard	84.0 mm (3.3071 - 3.3078 in)	84.0 mm (3.3071 - 3.3078 in)
Maximum	85.2 mm (3.3543 in)	85.2 mm (3.3543 in)
<b>Head Surface Warp</b>		
Standard	0.002 in. (0.05 mm)	0.05 mm (0.002 in)
Maximum	0.12 mm (0.005 in)	0.12 mm (0.005 in)

\* If bore size exceeds 85.2 mm (3.3543 in) replace with long block.

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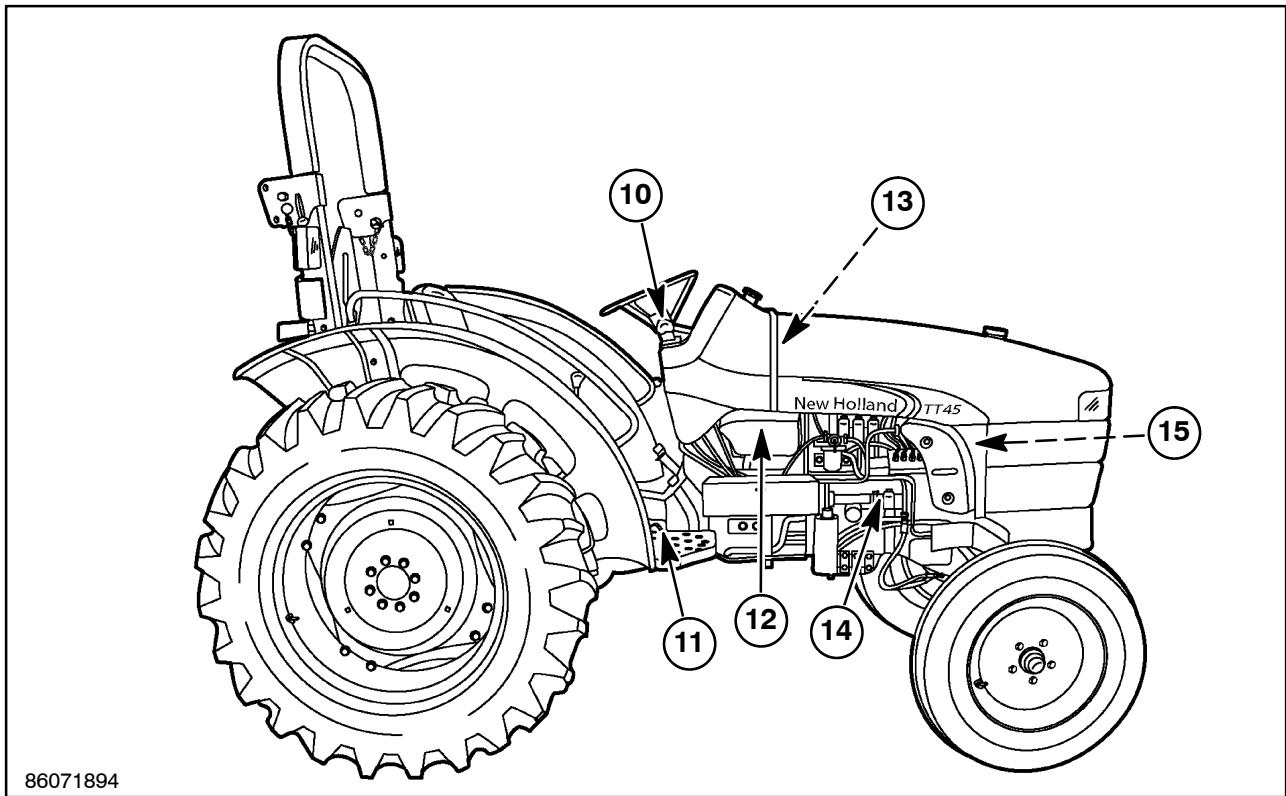
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### SEPARATING THE TRACTOR AT THE CLUTCH HOUSING/ENGINE – 8 x 2 TRANSMISSION

#### Disassembly

1. Disconnect the negative (-) battery cable, and the positive (+) battery cable from the battery, 1.
2. Disconnect the headlight wiring harness, 2, and remove the hood, 3.
3. If equipped, remove the remote loader control valve, and all the connecting hydraulic tubes from the right side loader tower.
4. Remove the LH and RH engine side covers, 4.
5. Remove the LH, RH and center rear hood panels, 5.
6. Remove the steering wheel, 6.
7. Remove the instrument panel, 7, from the dash housing. Disconnect all electrical connectors from the instrument panel.
8. Remove the dash housing, 8, from the firewall. Disconnect all electrical connectors from the dash housing.
9. Disconnect electrical harness to the starter, 9.



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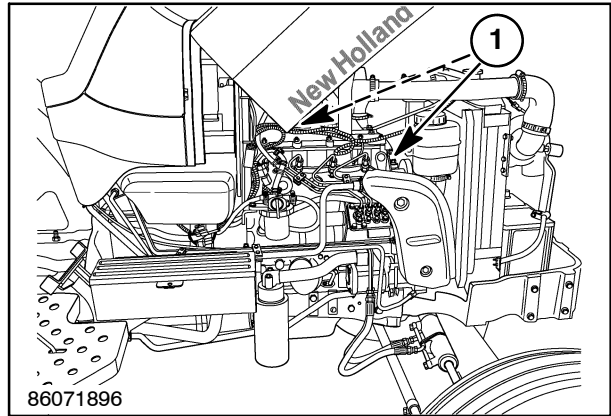
10. Disconnect and remove the throttle cable from the dash mounted throttle control lever, 10.
11. Disconnect and remove the throttle cable from the foot control pedal, 11.
12. Drain fuel from fuel tank, 12, into a suitable container. Remove fuel tank from firewall.
13. Remove the firewall, 13, from the tractor.
14. Disconnect all hydraulic tubes 14, to the hydraulic pump, 15.

## SECTION 10 - ENGINE - CHAPTER 1

15. Attach a chain sling to the two hoist eyes, 1.
16. Attach a suitable hoist to the chain sling.

**NOTE:** The hoist is used for supporting the engine and axle assembly, not necessarily for lifting.

17. Roll a floor jack under the rear of the tractor, and place under the clutch housing. Raise the jack enough to support the drive train.

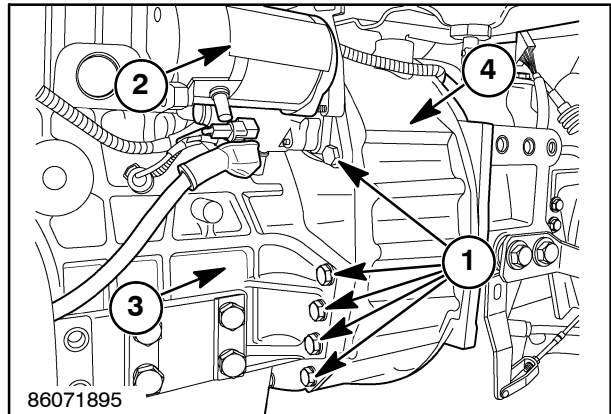


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18. Remove the buckle-up bolts, 1, and starter, 2, that secure the engine, 3, to the clutch housing, 4.

**NOTE:** The hoist and/or floor jack may need to be raised or lowered to allow for separation of the engine and clutch housing.

19. Carefully roll the drive train away from the engine, using the floor jack for support.



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## SEPARATING THE TRACTOR AT THE ENGINE/FRAME

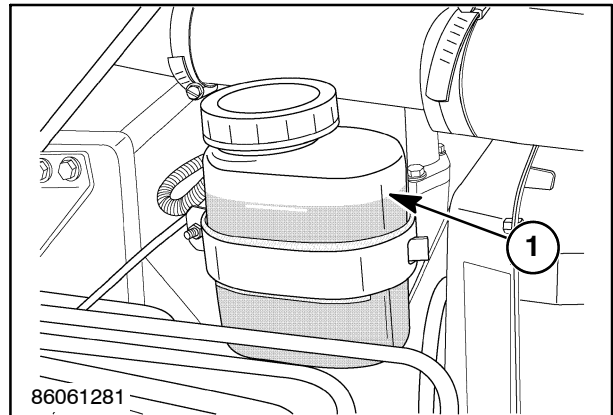
### Removal

1. Use jack stands under the frame rails to support the front frame/engine assembly.



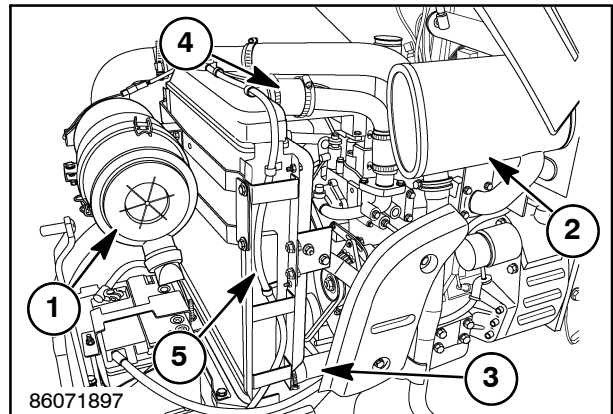
**Make sure the front frame/engine assembly is securely supported before removing the engine.**

2. Remove the chain sling from the two hoist eyes on the engine.
3. Drain the hydraulic fluid from the power steering reservoir, 1, into a suitable container. Remove the reservoir, 1, and mounting bracket from the engine.



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4. Remove the air cleaner assembly, 1, from the tractor.
5. Remove the muffler and tailpipe assembly, 2, from engine.
6. Loosen the lower radiator hose, 3, and drain the coolant into a suitable container.
7. Remove the lower, 3, and upper, 4, radiator hoses.
8. Remove the radiator, 5, from the tractor.



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