Massey Ferguson®

2635
Tractor

SERVICE MANUAL
4283424M3

CONTENTS

Part Number 4283424M3 (English)

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SECTION 1

Introduction and Safety

INTRODUCTION AND SAFETY

Table of Contents

1.1 INTRODUCTION

The purpose of this manual is to assist Dealers and Distributors in the efficient repair and maintenance of MF2635 farm tractors. Carrying out the procedures as detailed, together with the use of special tools where appropriate, will enable the operations to be completed within the time stated in the Repair Time Schedule.

To assist with locating information, each section of the manual is preceded by a contents page listing the operations. Each instruction within an operation has a sequence number, and to complete the operation in the minimum time it is essential that these instructions are performed in numerical sequence commencing at 1, unless otherwise stated.

When applicable, these sequence numbers identify the components in the appropriate illustration. When an operation requires the use of a special tool, the tool number is quoted under the operation heading and is repeated in, or following, the instruction involving its use.

Indexing

For convenience, the manual is divided into sections and parts, each page bearing a section and part number. The sections are subdivided into numbered operations

Definition of Terms

The operation description generally used throughout the schedules may be defined as follows :

Removed and Refitment

Remove and refit an original part or assembly, or a new part or assembly which does not involve additional operations or time

Install

Install a part or component not previously fitted e.g. accessories.

Overhaul

Remove a part or assembly, dismantle, inspect and recondition, re-assemble, and re-install making all necessary adjustments.

Dis-assembly and Re-assembly

The terms ‘Dis-assembly’ and ‘Re-assembly’ indicate the orderly taking apart of an assembly into individual parts and rebuilding it into the original assembly.

Adjust

Make the necessary adjustments to restore specified setting or performance.

Check

Ascertain if a setting or condition is within the limits of acceptability, either as defined in the manufacturer’s specifications or, where a dimension is not specified, in the judgement of the mechanic. The checking of fixings, e.g. nuts and bolts, includes tightening to the specified torque figures listed in this Manual

Servicing

All technical work undertaken to maintain the machine in working order.

Special Tools

Where the use of a special tool is specified in an operation the tool number will be shown under the operation heading and also following the instruction requiring its use.

The use of the special tools mentioned in the text contributes to a safe, efficient and profitable repair. Some operations are impracticable without their use, for example, the refitment of the differential unit. Distributors and Dealers are therefore urged to check their tools against the list provided.

Repairs and Replacement

When service parts are required it is essential that only MF2635 genuine parts are used for replacement.

Attention is particularly drawn to the following points concerning repairs and the fitting of replacement parts and accessories.

1. Safety features embodied in the tractor may be impaired if other than genuine parts are fitted.

2. In certain territories, legislation prohibits the fitting of parts not to the tractor manufacturer's specification.

3. Torque wrench setting figures given in the Workshop Manual must be strictly adhered to.

4. Locking devices where specified must be fitted. If the efficiency of a locking device is impaired during removal it must be renewed.

The tractor warranty may be invalidated by the fitting of parts other than genuine MF2635 parts. All MF2635 replacements have the full backing of the manufacturer's warranty. MF2635 Distributors and Dealers are obliged to supply only genuine service parts.

Repair of the Tractor

Follow these important points :

CLEAN THE TRACTOR AND DIAGNOSE THE FAULT BEFORE DIS-ASSEMBLY

If possible, make a complete diagnosis to determine the extent of the repair required. Take precautions, as necessary to prevent dirt or other foreign material entering the hydraulic, fuel or air systems.

DO NOT MIX PARTS

Make particular note of special parts which should not be interchanged.

DURING DIS-ASSEMBLY, CLEAN PARTS THOROUGHLY AND INSPECT THEM FOR WEAR, DAMAGE, ETC.

LABEL PARTS.

PROTECT PRECISION OR MACHINED SURFACES.

SAFETY ALERT SYMBOL AND TERMS

SAFETY ALERT SYMBOL

This is the safety alert symbol. It means ATTENTION! BECOME ALERT! SAFETY IS INVOLVED! Look for it, both in this manual and on safety signs on the tractor. It will direct your attention to information that involves your safety and the safety of others.

SIGNAL WORDS

The words **DANGER, WARNING** or **CAUTION** are used with the safety alert symbol. Learn to recognize these safety alerts and follow the recommended precautions and safe practices.

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in DEATH OR VERY SERIOUS INJURY.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in DEATH OR SERIOIUS INJURY.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in MINOR INJURY.

INFORMATIONAL MESSAGES

The words ***IMPORTANT*** and ***NOTE*** are not related to personal safety, but are used to give additional information and tips for operating or servicing the equipment.

IMPORTANT: *Identifies special instructions or procedures that, if not strictly observed,could result in damage to, or destruction of the tractor, attachments or the environment.*
NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.*

1.2 SAFETY IN THE WORKSHOP

This safety section of your Workshop Service manual is intended to point out some of the basic safety situations which may be encountered during the normal repair operations of the tractor, and to suggest possible ways of dealing with these situations.

Additional precautions may be necessary, depending on the type of repair and the conditions at the work site or in the workshop. Massey Ferguson has no direct control over the repair procedures, operation, inspection, lubrication or general maintenance. Therefore it is YOUR responsibility to use good safety practices in these areas.

Safety – a word to the Mechanic

It is your responsibility to read and understand this safety section before carrying out repairs on MF2635 equipment.

Remember that YOU are the key to safety. Good safety practices not only protect you, but also the people around you. Study the features in this section and the rest of the manual and make them a working part of your safety program. Practice all other usual and customary safe working precautions, and above all – REMEMBER - SAFETY IS YOUR RESPONSIBILITY. YOU CAN PREVENT SERIOUS INJURY OR DEATH.

SAFETY SIGN

WARNING : DO NOT remove or obscure Danger, Warning or Instruction sign.

Replace any Danger, Warning, Caution or Instruction sign that are not readable, damaged or are missing.

GENERAL

Practically all service work involves the need to drive a tractor. The Operator Instruction Book, supplied with each tractoror implement, contains detailed safety precautions relating to driving, operating and servicing. These precautions are as applicable to the service mechanic as they are to the operator, and should be read, understood and practiced by all personnel.

Prior to undertaking any maintenance, repair, overhaul, dismantling or re-assembly operations, whether within a workshop facility or out in the field, consideration should be given to factors that may have an effect upon Safety, not only upon the mechanic carrying out the work, but also upon bystanders.

- DO NOT allow children or bystanders around or on the machine while it is being adjusted, serviced, repaired or operated.

PERSONAL CONSIDERATIONS

Clothing

- The wrong clothes or carelessness in dress can result in entanglement in moving parts. Check to see that you are suitably clothed. DO NOT wear loose clothing or long hair around equipment.

  Some jobs require special protective equipment.

Eye Protection

- The smallest eye injury may cause loss of vision. Injury can be avoided by wearing the proper eye protection when engaged in chiselling, grinding, sanding, welding, painting etc.
- Wear safety goggles or safety glasses appropriate to the job in hand.

Breathing Protection

- Fumes,dust and paint spray are unpleasant and harmful. These can be avoided by wearing respiratory protection.

Hearing Protection

- Loud noise may damage your hearing. Longer the exposure greater the damage. Wear ear protection.

Hand Protection

- It is advisable to use a protective barrier cream before work to prevent irritation and skin contamination. After work clean your hands in soap and water. Solvents such as white spirit, paraffin, etc., may harm the skin.
- Wear gloves when ever possible to protect your hands. DO NOT wear rings or wrist watches when working on machinery, as they could catch on moving parts and cause serious injury.

Foot Protection

- Substantial or protective footwear with reinforced toe-caps (safety shoes) will protect your feet from falling objects. Additionally, oil-resistant soles will help to avoid slipping.

Special Clothing

- For certain work it may be necessary to wear flame or acid-resistant clothing.

EQUIPMENT CONSIDERATIONS

Machine Guards

- Before using any machine, check to ensure that the machine guards are in position and serviceable. These guards not only prevent parts of the body or clothing coming in contact with the moving parts of the machine, but also ward off objects that might fly off the machine and cause injury. Ensure that missing guards are replaced.

Lifting Appliances

- Always ensure that lifting equipment, such as chains, slings, lifting brackets, hooks and eyes are thoroughly checked before use. If in doubt, select stronger equipment than is necessary.
- Never stand under a suspended load or raised implement.
- Avoid injury through incorrect handling of components. Make sure you are capable of lifting the object. If in doubt get help.

Jacking

- Select a jack strong enough to carry the load.
- Stabilize the tractor and chock the wheels.
- Put support stands under the tractor. Lower the jack and let the tractor rest on the stands.
- DO NOT go under a tractor supported by a chain hoist or jack.

Compressed Air

- The pressure from a compressed air line is often as high as 7 bar (100 psi). Any misuse may cause injury.
- Never use compressed air to blow dust, filings, dirt etc., away from your work area unless the correct type of nozzle is fitted and eye protection is used.
- Compressed air is not a cleaning agent, it will only move dust, etc., from one place to another. Look around before using an air hose as bystanders may get grit into their eyes, ears or skin.
- Used approved air guns, wear safety goggles, and use proper shielding to protect yourself and others in the work area.
- Never point an air nozzle at a persons body.

Hand Tools

- Many cuts, abrasions and injuries are caused by defective tools. Never use the wrong tool for the job, as this generally leads either to some injury, or to a poorly done job.
- Never use
  - A hammer with a loose head or split handle.
  - Spanners or wrenches with splayed or worn jaws.
  - Spanners or files as hammers; or drills, clevis pins or bolts as punches.
- Grind off mushroom heads from chisels. The sharp edges can tear your skin if the tool slips. And, when the tool is struck, chips could break off and fly into your eyes.
- Keep a handle on every file to prevent the tang from piercing your palm or wrist if the file should slip or catch.
- For removing or replacing hardened pins use a copper or brass drift rather than a hammer.
- For dismantling, overhauling and assembly of major components, always use Special Service Tools recommended.
- These will reduce the work effort, labour time and repair cost.
- Always keep tools clean and in good working order.

Electricity

- Electricity has become so familiar in day to day usage, that its potentially dangerous properties are often overlooked. Misuse of electrical equipment can endanger life.
- Before using any electrical equipment particularly portable appliances – make a visual check to make sure that the cable is not worn or frayed and that the plugs, sockets, etc., are intact. Make sure your know where the nearest isolating switch is located. Always use an earthed (grounded) 3 pin electrical cord.

GENERAL CONSIDERATION

Solvents

- Use only cleaning fluids and solvents that are known to be safe. Certain type of fluid can cause damage to components such as seals, etc., and cause skin irritation. Solvent label is to be checked whether chemical contained in it is harmful to the individual who uses it.

Housekeeping

- Many injuries result from tripping or slipping over or on, objects or material left lying around by a careless worker. Prevent these accidents from occurring. If you notice a hazard, don't ignore it – remove it.
- A clean, hazard-free place of work improves the surroundings and daily environment for everybody.
- Keep work organised and clean. Wipe up spills of any kind to minimise the possibility of a fall. Keep tools and parts off the floor to further reduce the possibility of tripping and causing serious injury.

Fire

- Fire has no respect for persons or property. The destruction that fire can cause is not always fully realised. Everyone must be constantly on guard.
  - Extinguish matches, cigars, cigarettes, etc., before throwing them away.
  - Keep the environment clean by disposing waste through proper container.
  - Locate the fire extinguishers and find out how to operate them.
  - DO NOT allow or use open flame near the fuel tank, fuel lines, battery, hydraulic hoses or component parts.
- When using a gas torch, always keep a fully charged fire extinguisher within reach.
- In the event of fire :
  - DO NOT panic – warn those near and raise the alarm.

First Aid

- In the type of work that mechanics are engaged in, dirt, grease, fine dust, etc. all settle upon the skin and clothing. If a cut, abrasion or burn is disregarded it may be found that an infection has formed within a short time. What appears at first to be trivial could become painful and injurious. It takes few minutes to have a fresh cut dressed, but it will take longer if you neglect it. Make sure you know where the First Aid box is located and it is kept fully stocked at all times.

OPERATIONAL CONSIDERATIONS

- Stop the engine, before performing any service.
- Place a warning sign on self propelled equipment which, due for service or overhaul, would be dangerous to start. Disconnect the battery leads if leaving such a unit unattended and remove the key.
- DO NOT attempt to start the engine while standing besides the tractor or attempt to by-pass the neutral start switch. Make it a routine to check whether neutral start switch are functioning properly.
- Avoid prolonged running of the engine in a closed building or in an area with inadequate ventilation as exhaust fumes are highly toxic
- If possible, wait for the radiator to cool before removing the cap. Place a rag over the cap to contain any released coolant and wear an insulating glove to protect your hand. Turn the cap to the first stop and wait until pressure in the system is released before removing the cap.
- Never work beneath a tractor which is on soft ground. Always take the unit to an area which has a hard level working surface (concrete is preferred) and use a mechanical jack if required.
- If it is found necessary to raise the equipment for ease of servicing or repair, make sure that safe and stable supports are installed beneath axle housing, casings, etc., before commencing work.
- Certain repair or overhaul procedures may necessitate 'Separating the tractor' either at the engine / gearbox / rear axle locations. These operations are simplified by the use of the Tractor Splitting Kit / stands. Should this equipment not be available, then every consideration must be given to stability, balance and weight of the components, especially if a cab is installed.
- Use footsteps or working platforms when servicing those areas that are not within easy reach.
- Cleanliness of the tractor hydraulic system is essential for optimum performance. When carrying

out service and repairs plug all hose ends and component connections to prevent dirt entry.

- Clean the exterior of all components before carrying out any form of repair. Dirt and abrasive dust can reduce the efficiency and working life of a component and lead to costly replacement. Use of high pressure water or steam cleaner is recommended.
- Before loosening any hoses or tubes connecting implements to remote control valves, etc., switch off the engine, remove all pressure in the lines by operating levers several times.
- Prior to pressure testing, make sure all hoses and connectors not only of the equipment, but also those of the test equipment, are in good condition and tightly sealed. Pressure readings must be taken with the gauges specified. The correct procedure should be rigidly observed to prevent damage to the system or equipment, and to eliminate the possibility to reduce the risk.
- Hydraulic fluid escaping under pressure can have enough force to penetrate the human skin. To locate a leak under pressure, use a small piece of cardboard, never use your hands. If you are injected with hydraulic fluid seek medical help immediately.
- When equipment or implements are required to be attached to the hydraulic linkage, either for testing purposes or for transportation, the 'Position Control' should be used.
- Always lower equipment to the ground when leaving the tractor.
- If high lift attachments are installed on a tractor beware of overhead power, electric or telephone cables when travelling. Drop the attachment near to ground level to increase stability and minimise risks.
- DO NOT park or attempt to service the equipment on an incline. If unavoidable, take extra care and chock all wheels.
- Prior to removing wheels and tires from a tractor, check to determine whether additional ballast (liquid or weights) has been added Seek assistance and use suitable equipment to support the weight of the wheel assembly. Store the wheel so that they cannot fall over and cause injury.
- When inflating tires beware of over inflation – constantly check the pressure. Over inflation can cause tires to burst and result in personal injury.

SERVICING TECHNIQUES

Service Safety

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all farm machinery as well as the personal safety of the individual doing the work.

This Service Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure that a thorough repair is successfully completed.

There are numerous variations in procedures, techniques, tools, and parts for servicing tractors, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Anyone who departs from the instructions provided in this Manual must realise that one compromises their personal safety and the tractor's integrity by the choice of repair methods, tools and / or parts.

Service Techniques

Clean the exterior of all components before carrying any form of repair. Dirt and abrasive dust can reduce the efficient working life of a component and lead to costly replacement.

Time spent on the preparation and cleanliness of working surfaces will pay dividends in making the job easier and safer and will result in overhauled components being more reliable and efficient in operation.

Use cleaning fluids which are known to be safe. Certain types of fluid can cause damage to 'O' rings and cause skin irritation. Check the label on solvents to ensure that they are suitable for the cleaning of components and also that they DO NOT risk the personal safety of the user.

Replace 'O' rings, seals or gaskets whenever they are disturbed. Never mix new and old seals or 'O' rings, regardless of condition. Always lubricate new seals and 'O' rings with hydraulic oil before installation.

When replacing component parts use the correct tool for the job.

Hoses and Tubes

Always replace hoses and tubes if their ends are damaged.

When installing a new hose, loosely connect each end and make sure the hose takes up the designed position before tightening the connection. Clamps should be tightened sufficiently to hold the hose without crushing and to prevent chaffing or contact with other parts.

Before removing hoses or tubes make sure they are identified so that they can be correctly re-assembled.

Be sure any hose which has been installed is not kinked or twisted after it is tightened.

Bearings

Bearings which are considered suitable for further service should be cleaned in a suitable solvent and immersed in clean lubricating oil until required.

DO NOT spin bearing with compressed air the centrifugal force could cause a ball or roller to fly outward with enough force to cause an injury.

Installation of a bearing can be classified in two ways. Press fit on rotating parts such as shafts & gears. Push fit into static locations such as reduction gear housings. Where ever possible, install the bearing onto the rotating component first.

Always use pullers or a press to remove and / or install bearings, bushings and cylinder sleeves, etc. Use hammers, punches and chisels only when absolutely necessary and be sure to wear safety goggles.

Shims

When shims are removed, tie them together and identify them as to location. Keep shims clean and flat until they are re-installed.

Gaskets

Be sure the holes in the gasket correspond with the lubricant passages in the mating parts. If gaskets are to be made, select material of the proper type and thickness. Be sure to cut holes in the right places. Blank gaskets can cause serious damage – always renew gaskets prior to re-installation.

Lip Type Seals

Lubricate the lips of the lip-type seals before installation. Use petroleum jelly. DO NOT use grease. Ensure that the oil seal is fitted the right way round, the lip of the seal is placed next to the lubricant that is sealed. Some seals have a second auxiliary lip, which is used to prevent the ingress of dirt to the seal lip.

During Installation, if the seal lip must pass over a shaft that has splines, a keyway, rough surface or a sharp edge, the lip can be easily damaged. Always use a seal protector, when one is provided.

Use of Bolts in Blind Holes

Use bolts of the correct length. A bolt which is too long may ‘bottom’ before the head is tight against the part it is to hold. The threads can be damaged when a ‘long’ bolt is removed. If a bolt is too short, there may not be enough threads engaged to hold the part securely.

Locking Devices

Lockwashers, flat metal locks or split pins are used to lock nuts and bolts.

Flat metal locks must be installed properly to be effective. Bend one end of the lock around the edge of the part. Bend the other end against one flat surface of the nut or bolt head. Always install new locks.

Always fit new split pins / cotter pins and bend the ends round so that they will not catch in clothing and help to prevent cuts.

Cables and Wires

When removing or disconnecting a group of cables or wires, tag each one to assure proper re-assembly.

Always clip back wires and cable looms properly to prevent chaffing, cable damage and possible damage by fire.

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SECTION 2

Miscellaneous Data

SECTION 2

Miscellaneous Data

2.1 BOLT TORQUE SPECIFICATIONS (GENERAL GUIDE FOR INCH FASTENERS)

Use the “Standard Torque” charts as a general guide when tightening fasteners that DO NOT HAVE SPECIFIC TIGHTENING RECOMMENDATIONS.

Inch Fastners Standard torque in Newton Metres (Foot pounds)					
*Inch bolt size	SAE grade 5 ** mild steel below grade 5	SAE grade 8 ISO grade 8.8 BS grade S		ISO grade 10.9 BS grade V	
		*** Non-rigid joint	**** Rigid joint	*** Non-rigid joint	**** Rigid joint
1/4 inch	6 - 8 (4 - 6)	9 - 12 (7 - 9)	11 - 15 (8 - 11)	13 - 18 (10 - 13)	16 - 22 (12 - 16)
5/16 inch	12 - 16 (9 - 12)	18 - 24 (13 - 18)	22 - 30 (16 - 22)	25 - 34 (18 - 25)	31 - 43 (23 - 32)
3/8 inch	22 - 30 (16 - 22)	31 - 42 (23 - 31)	39 - 53 (29 - 39)	44 - 60 (32 - 44)	55 - 75 (41 - 55)
7/16 inch	35 - 47 (26 - 35)	51 - 69 (38 - 51)	64 - 86 (47 - 63)	72 - 96 (53 - 71)	90 - 120 (66 - 89)
1/2 inch	54 - 72 (40 - 53)	80 - 104 (59 -77)	100 - 130 (74 - 96)	110 - 140 (81 - 103)	140 - 180 (103 - 133)
5/8 inch	110 - 140 (81 - 103)	160 - 210 (118 - 155)	200 - 260 (148 - 192)	220 - 300 (162 - 221)	280 - 370 (207 - 273)
3/4 inch	190 - 250 (140 - 184)	280 - 370 (207 - 273)	350 - 460 (258 - 339)	390 - 530 (287 - 391)	490 - 660 (361 - 487)
7/8 inch	310 - 410 228 - 302	450 - 610 (332 - 450)	560 - 760 (413 - 561)	640 - 850 (472 - 672)	800 - 1060 (590 -782)
1 inch	460 - 620 (339 - 457)	670 - 900 (494 - 664)	840 - 1120 (620 - 826)	960 - 1280 (708 - 944)	1200 - 1600 (885 - 1180)

Key to table above:

* N*OTE: The size is the diameter of the shank - not the head width.*

** *NOTE: Mild steel torque values to be used for SAE Grade 5 bolts when weld nuts, or other low strength nuts are used.*

*** *NOTE: Use these values when any of the following conditions exist:*

1. Possible damage to the joined members of the assembly may occur.
2. Thick and/or highly compressible gaskets are used between members.
3. Non -flat unmachined seating surfaces for bolt head (or nut) occurs.
4. Non -flat or non -parallel joint faces are encountered.

**** *NOTE: Use these values when ALL of the following conditions exist:*

1. Damage will not occur to the joined members of the assembly.
2. It is desirable to use this higher clamping force to ensure tightness.
3. Fastener thread is not lubricated prior to assembly.

2.2 BOLT TORQUE SPECIFICATIONS (GENERAL GUIDE FOR METRIC FASTENERS)

Use the “Standard Torque” charts as a general guide when tightening fasteners that DO NOT HAVE SPECIFIC TIGHTENING RECOMMENDATIONS

Inch Fastners Standard torque in Newton Metres (Foot pounds)					
*Inch bolt size	SAE grade 5 ** mild steel below grade 5	SAE grade 8 ISO grade 8.8 BS grade S		ISO grade 10.9 BS grade V	
		*** Non-rigid joint	**** Rigid joint	*** Non-rigid joint	**** Rigid joint
M6	4 - 5 (3 - 4)	8 - 11 (6 - 8)	10 - 14 (7 - 10)	12 - 16 (9 - 12)	14 - 20 (10 -15)
M8	10 - 13 (7 - 10)	20 - 28 (15 - 21)	25 - 35 (18 - 26)	29 - 37 (21 - 27)	36 - 46 (27 - 34)
M10	19 - 25 (14 -18)	40 - 56 (30 - 41)	50 - 70 (37 - 52)	57 - 77 (42 - 57)	72 - 96 (53 -71)
M12	33 - 43 (24 - 32)	72 - 96 (53 - 71)	90 - 120 (66 - 89)	100 - 130 (74 - 96)	120 - 160 (89 - 118)
M16	84 - 110 (62 - 81)	160 - 210 (118 - 155)	200 - 260 (148 - 192)	240 - 320 (177 - 236)	300 - 400 (221 - 295)
M20	160 - 210 (118 - 115)	340 - 450 (251 - 332)	420 - 560 (310 - 413)	480 - 640 (354 - 472)	600 - 800 (443 - 590)

Key to table above:

* *NOTE: The size is the diameter of the shank - not the head width.*

** *NOTE: Mild steel torque values to be used for SAE Grade 5 bolts when weld nuts, or other low strength nuts are used.*

*** *NOTE: Use these values when any of the following conditions exist:*

1. Possible damage to the joined members of the assembly may occur.
2. Thick and/or highly compressible gaskets are used between members.
3. Non -flat unmachined seating surfaces for bolt head (or nut) occurs.
4. Non -flat or non -parallel joint faces are encountered.

**** *NOTE: Use these values when ALL of the following conditions exist:*

1. Damage will not occur to the joined members of the assembly.
2. It is desirable to use this higher clamping force to ensure tightness.
3. Fastener thread is not lubricated prior to assembly.

2.3 CONVERSION TABLES

Area	Multiply by
mm^2 to in^2	0.0015
in^2 to mm^2	645.16
m^2 to ft^2	10.764
ft^2 to m^2	0.0929
ha to acre	2.4711
acre to ha	0.4047

Capacity	Multiply by
ml to fluid oz	0.0351
fluid oz to ml	28.413
litre to gal	0.2200
gal to litre	4.5640
litre to US gal	0.2640
US gal to litre	3.7850
gal to US gal	1.2010
US gal to gal	0.8330

Length	Multiply by
mm to in	0.0394
in to mm	25.400
m to ft	3.2808
ft to m	0.3048
km to mile	0.6214
mile to km	1.6093
tonne to ton	0.9842
ton to tonne	1.0160

Power	Multiply by
ps to hp	0.9863
hp to ps	1.0139
kW to hp	1.3410
hp to kW	0.7457

Pressure	Multiply by
bar to lbf/in^2	14.504
lbf/in^2 to bar	0.0690

Speed	Multiply by
km/hr to mile/hr	0.6214
mile/hr to km/hr	1.6093

Torque	Multiply by
Nm to lbf ft	0.738
lbf ft to Nm	1.356

Volume	Multiply by
mm^3 to in^3	0.6102
in^3 to mm^3	163.87
m^3 to ft^3	35.315
ft^3 to m^3	0.0283

Weight	Multiply by
gram to oz	0.3530
oz to gram	28.350
kg to lb	2.2046
lb to kg	0.4536
kg to ton	0.0010
ton to kg	1016.1

Temperature
^oC to ^oF 1.8 x ^oC + 32
^oF to ^oC (^oF - 32) ÷ 1.8

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Section 3

Tractor Identification and Specification MF2635

TRACTOR IDENTIFICATION

Each tractor is identified by a tractor serial number and an engine serial number. To ensure prompt response to ordering of service parts or repair from your dealer, always quote the tractor model, tractor serial number and engine serial number.

The tractor model number, type & serial number (chassis serial number) is stamped on the number plate fixed at the right-hand side of the steering housing - Fig. 1

Record this number for future reference.

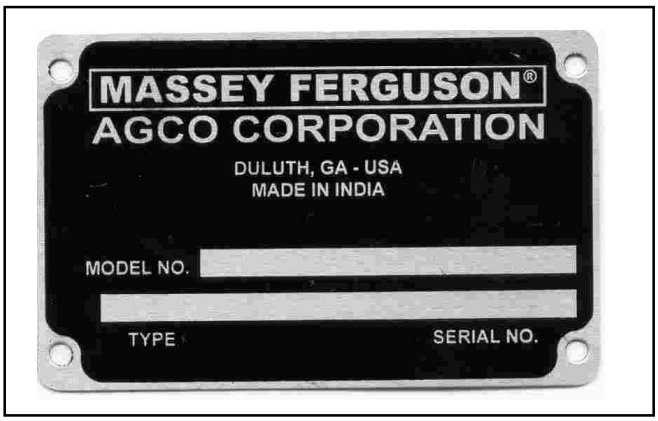

Fig. 1

The **engine serial number** is also stamped on the right-hand side of the engine block - Fig. 2.

The engine serial number for MF 2635 will be as follows:

T SJ436 E XXXXXXX

Record the exact serial number of the engine fitted to your tractor for future reference.

Fig. 2

SPECIFICATION OF TRACTOR UNIT

1. ENGINE

Name of Brand with Model	…	Simpsons TSJ436E, Turbo charged, direct injection diesel with PCV (Compliance to US Tier IV Interim norms)
Country of Origin	…	India
No. of Cylinders	…	4
Fuel System	…	Direct, BOSCH rotary mechanical governor
Fuel Filters	…	Twin type (spin on) - Inline Canister type
Engine Ps (ISO14396)	…	74.8 Ps @ 2200 Erpm
On PTO	…	60 to 64 Ps @ 2200 Erpm
On independent PTO	…	58 to 62 Ps @ 2200 Erpm
Displacement	…	0.95 gal (3.6 L)
Bore	…	3.74 inch (95 mm)
Stroke	…	5 inch (127 mm)
Compression Ratio	…	18.3 : 1
Air cleaner System	…	Dry type air cleaner with primary and secondary filter element
Exhaust	…	Vertical exhaust
Engine Cooling	…	Pressurized water cooling
Throttle	…	Hand and foot throttle
Aided Start	…	5° F (–15°C)
Engine Oil Drain Period	…	250 hrs

2a. CLUTCH

Type	…	Dual dry
Diameter	…	12 inch (305 mm) & 10 inch (254 mm)
Method of Operation	…	Manual with pendant pedal type operation

2b. SPLIT TORQUE CLUTCH

Type	…	Single dry
Diameter	…	12 inch (305 mm)
Method of Operation	…	Manual with pendent pedal type operation

3a. TRANSMISSION

Transmission Type	…	Full Sliding mesh with high / low epicyclic unit
No. of Speed	…	8 Forward + 2 Reverse
Gear Shift	…	Center Shift / Side Shift

3b. TRANSMISSION

Transmission Type	…	Full Synchromesh with high / low epicyclic unit
No. of Speed	…	8 Forward + 8 Reverse

4. REAR AXLE & FINAL DRIVE

Type	…	Crown wheel and pinion (38 X 11) with differential lock and epicyclic at wheel end
Rear Track Adjustments	…	60.5 inch - 84.3 inch (1537 - 2140 mm) adjustable in steps of 4 inch (102 mm) - STD track - 60.5 inch (1537mm)

5. STEERING

Type	…	Hydrostatic, DANFOSS steering unit, Bosch hydraulic driven by engine timing case gears with separate reservior
Location	…	Above clutch housing
Diameter of Steering Wheel	…	14.8 inch (378 mm)

6a. FRONT AXLE – 2WD

Type	…	Three piece, telescopic heavy duty straight front axle.
Front Track Adjustments	…	56 inch - 72 inch (1422 - 1830 mm), adjustable in steps of 4 inch(102 mm)

6b. FRONT AXLE – 4WD

Type	…	4WD front axle
Front Track Adjustments	…	56 inch - 60.4 inch (1424 mm -1534 mm), adjustable in steps of 4 inch (102 mm)

7. BRAKES

Type	…	Oil immersed brakes, wet multiple plate disc
Method of operation	…	Manual, foot operated, individual left-hand / right-hand or combined through pendant pedal operation
Parking Brake Type & Location	…	Mechanical, hand operated, mounted on the left-hand side fender
Method of Operation	…	By hand lever on left-hand side through cables, independent of foot brakes
Size of Liners and Liner Material	…	8.81 inch (224 mm) x 0.189 inch (4.82 mm) - 8 no's with paper based non-asbestos

8. HYDRAULIC SYSTEM

Pump	…	Mark III 4 cylinder scotch yoke piston pump with suction strainer
Auxiliary Hydraulic System	…	Integral with mark III pump(MF piggyback type)
Pump Capacity	…	5.15 gpm (19.5 lpm) @ 665 PTO rpm (2200 Erpm)(basic) 10.69 gpm (40.5 lpm) @ 665 PTO rpm (2200Erpm) (auxiliary) (First pump) 5.62 gpm (21.3 lpm) @ 665 PTO rpm (2200Erpm) (auxiliary) (second pump)
Lower links	…	Cat I & II (combined ball), leveling of implement by adjustable lift rod on right-hand side
Lifting Capacity	…	2050 kgf - Horizontal Range 1850 kgf - Throughout Range

9a. POWER TAKE OFF

Method of operation	…	Manual, Engagement by hand lever located on left-hand side
PTO Speed	…	540 rpm @ 1789 Erpm
Shaft diameter	…	1 3/8 inch (34.9 mm)
No. of Splines	…	6

9b. INDEPENDENT POWER TAKE OFF

Method of operation	…	Hydraulic clutch engagement by manually, lever operated type, located on left-hand side cover
IPTO Speed	…	540 rpm @ 1789 Erpm

10. ELECTRICAL SYSTEM

(a) STARTER MOTOR

Make & Model	…	LUCAS TVS, HD 10
Type	…	Pre- engaged with protection barrier, flange mounted
Voltage	…	12 V DC
Power	…	2.8 kW
Protection	…	Can be operated only when high-low selector is in neutral position and PTO in disengaged position

(b) ALTERNATOR

Make & Model	…	LUCAS TVS, A115
Regulated Voltage	…	12 V DC
Rated Output	…	45 A

(c) LIGHTS

Head Lights	…	35 W x 4 (Halogen)
Work Lamp	…	55 W x 1 (Halogen)
Flashing warning lamp	…	21 W x 4
Turn indicator Lamp /Tail lamp	…	21/5 W x 2

(d) FUSES

Horn	…	5A
Head lamps	…	15A
Flashing lights	…	25A
Start	…	10A
Work lamp	…	10A
Tail lights	…	5A
Fuel lift pump	...	10A
Instrument Cluster illumination	...	10A

KSB circuit	…	5A
Primary fuse	…	80A
Glow plug	…	80A
Auxiliary power	…	25A
(e) RELAY	…	Starter, High beam, Low beam, Flashing warning lamps, Turn Indicator lamp, KSB circuit, Fuel lift Pump, Timer relay
(f) SWITCHES	…	Rotary light switch, ignition switch, indicator switch, horn switch

11. INSTRUMENT GAUGES … Instrument cluster with electronic RPM meter, voltmeter, engine oil pressure gauge, engine coolant temp. gauge, fuel gauge and indicators for head light high beam, left and right-hand turn signal, turn trailer, high temperature, low oil pressure, air filter restriction, 4 WD on (Only for 4WD tractors), battery charge indicator, Glow indicating lamp

12a.TIRES (FOR 2WD)

Front Tire	…	7.50 X16 - 6 Ply on 5.50F X 16 Rim
Rear Tire	…	16.9 X 28 - 8 Ply on W15L X 28 Rim

12b.TIRES (FOR 4WD)

Front Tire	…	9.50 X 24 - 6 Ply on W8 X 24 Rim
Rear Tire	…	16.9 X 28 - 8 Ply on W15L X 28 Rim

12c.LOAD & INFLATION TABLE

TIRE LOAD LIMITS LBS AT VARIOUS COLD INFLATION PRESSURES										
Tire Size	**Psi**	**24**	**28**	**32**	**36**	**40**	**44**	**48**	**52**	**56**
	bar	**1.65**	**1.93**	**2.21**	**2.34**	**2.48**	**3.033**	**3.309**	**3.585**	**3.861**
	LBS	990	1,100	1,200	1,320	1,390	14,806	1,570	1,650	17,108
7.50-16	**Kg**	449.06	498.95	544.31	598.74	630.49	6715.88	712.14	748.42	7760.05

TIRE LOAD LIMITS AT VARIOUS COLD INFLATION PRESSURES											
Tire Size	**Psi**	**12**	**14**	**16**	**18**	**20**	**22**	**24**	**26**	**28**	**30**
	bar	**0.83**	**0.97**	**1.10**	**1.24**	**1.38**	**1.52**	**1.65**	**1.79**	**1.93**	**2.07**
	LBS	1100	1200	1280	1390	1480(4)	1570	1650	1710	1820	1870(6)
9.5-24	**Kg**	498.95	544.31	580.60	630.49	671.32 (4)	712.14	748.43	775.64	825.54	848.217 (6)
	LBS	*2910	*3200	3420	3640(6)	3860	4080	4300(8)	4540	4680(10)	
16.9-28	**Kg**	*1319.95	*1451.49	1551.28	1651.07 (6)	1750.86	1850.65	1950.44 (8)	2059.30	2122.81 (10)	

* Values at these inflation pressures are for determination of dual loads only.

CAUTION: LOAD MUST NEVER EXCEED CAPABILITIES AS STATED ON TIRE SIDEWALL.

Source : www.titanstore.com/pdf/LoadandInflation.pdf

13. SEAT

Type	…	Sliding seat with retractable seat belt

14. SHEET METAL

Fenders	…	Shell type

15. CAPACITIES

Fuel Tank	…	17.17 gal (65 litre)
Engine oil (Sump + Oil filter)	…	2.38 gal (9.0 litre)
Cooling System	…	3.93 gal (14.9 litre)
Transmission & Hydraulic System	…	10 gal (38 litre)
Hydrostatic Steering System	…	0.5 gal (1.9 litre)

Front Axle (4WD)

Axle	…	0.990 gal (3.75 litre) (DANA).
	…	1.453 gal (5.5 litre) (CARRARO).
Hub Reduction	…	0.105 gal (0.4 litre) both sides (Dana Axle)
	…	0.316 gal (1.2 litre) both sides (Carraro Axle)

16. DIMENSIONS & WEIGHT (2WD)

Overall Length (with Lower links)	…	138 inch (3510 mm)
Overall Width	…	77.6 inch (1972 mm)
Overall Height (Over Rops)	…	94 inch (2395 mm)
Wheel Base	…	80.1 inch (2035 mm)
Min Ground Clearance (under Gear box)	…	15.5 inch (395 mm)
Turning Circle Radius with Brakes	…	134 inch (3400 mm)
Turning Circle Radius without Brakes	…	146 inch (3700 mm)
Tractor Weight with quantities of fuel, oils and coolant as per fill up data	…	5357 lb (2460 kg) – Approx.

16a. DIMENSIONS & WEIGHT (4WD)

Overall Length (with Lower links)	…	138 inch (3510 mm)
Overall Width	…	77.6 inch (1972 mm)
Overall Height (Over Rops)	…	94 inch (2395 mm)
Wheel Base	…	81.3 inch (2066 mm)
Min Ground Clearance (under Gear box)	…	15.5 inch (395 mm)
Turning Circle Radius with Brakes	…	138 inch (3530 mm) (4WD Engaged)
Turning Circle Radius without Brakes	…	178 inch (4520 mm) (4WD Engaged)
Turning Circle Radius with Brakes	…	142.5 inch (3620 mm) (4WD Disengaged)
Turning Circle Radius without Brakes	…	168 inch (4260 mm) (4WD Disengaged)
Tractor Weight with quantities of fuel, oils and coolant as per fill up data	…	5798 lb (2670 kg) – Approx.

SPEED CHART FOR 8X2 GEAR BOX

(16.9 x 28 Rear Tires)

8x2	Low Gear Range (mph)					Low Gear Range (kph)				
Engine RPM	1	2	3	4	R	1	2	3	4	R
800	0.6	0.9	1.2	1.6	0.8	1.0	1.4	2.0	2.6	1.3
1000	0.8	1.1	1.5	2.1	1.0	1.2	1.8	2.5	3.3	1.7
1200	0.9	1.3	1.8	2.5	1.2	1.5	2.2	3.0	4.0	2.0
1400	1.1	1.6	2.1	2.9	1.5	1.7	2.5	3.4	4.6	2.3
1600	1.2	1.8	2.4	3.3	1.7	2.0	2.9	3.9	5.3	2.7
1800	1.4	2.0	2.8	3.7	1.9	2.2	3.2	4.4	5.9	3.0
2000	1.5	2.2	3.1	4.1	2.1	2.5	3.6	4.9	6.6	3.3
2200	1.7	2.5	3.4	4.5	2.3	2.7	4.0	5.4	7.3	3.7

8x2	High Gear Range (mph)					High Gear Range (kph)				
Engine RPM	1	2	3	4	R	1	2	3	4	R
800	2.4	3.6	4.9	6.6	3.3	3.9	5.8	7.9	10.6	5.4
1000	3.1	4.5	6.1	8.2	4.2	4.9	7.2	9.8	13.2	6.7
1200	3.7	5.4	7.3	9.8	5.0	5.9	8.6	11.8	15.8	8.0
1400	4.3	6.3	8.6	11.5	5.8	6.9	10.1	13.8	18.5	9.4
1600	4.9	7.2	9.8	13.1	6.7	7.9	11.5	15.7	21.1	10.7
1800	5.5	8.1	11.0	14.8	7.5	8.8	13.0	17.7	23.8	12.0
2000	6.1	9.0	12.2	16.4	8.3	9.8	14.4	19.7	26.4	13.4
2200	6.7	9.8	13.5	18.1	9.1	10.8	15.8	21.6	29.1	14.7

SPEED CHART FOR 8X8 GEAR BOX

(16.9 x 28 Rear Tires)

8x8	Low Gear Range (mph)								Low Gear Range (kph)							
Engine RPM	F1	F2	F3	F4	R1	R2	R3	R4	F1	F2	F3	F4	R1	R2	R3	R4
800	0.6	1.0	1.4	2.0	0.7	1.0	1.4	2.0	1.0	1.6	2.3	3.2	1.1	1.6	2.3	3.3
1000	0.8	1.2	1.8	2.5	0.8	1.2	1.8	2.5	1.3	1.9	2.8	4.0	1.3	2.0	2.9	4.1
1200	1.0	1.4	2.1	3.0	1.0	1.5	2.2	3.1	1.6	2.3	3.4	4.8	1.6	2.4	3.5	4.9
1400	1.1	1.7	2.5	3.5	1.2	1.7	2.5	3.6	1.8	2.7	3.9	5.6	1.9	2.8	4.0	5.7
1600	1.3	1.9	2.8	4.0	1.3	2.0	2.9	4.1	2.1	3.1	4.5	6.4	2.1	3.2	4.6	6.6
1800	1.4	2.2	3.2	4.5	1.5	2.2	3.2	4.6	2.3	3.5	5.1	7.2	2.4	3.6	5.2	7.4
2000	1.6	2.4	3.5	5.0	1.6	2.5	3.6	5.1	2.6	3.9	5.6	8.0	2.7	4.0	5.8	8.2
2200	1.8	2.7	3.9	5.5	1.8	2.7	3.9	5.6	2.8	4.3	6.2	8.8	2.9	4.4	6.4	9.0

8x8	High Gear Range (mph)								High Gear Range (kph)							
Engine RPM	F1	F2	F3	F4	R1	R2	R3	R4	F1	F2	F3	F4	R1	R2	R3	R4
800	2.6	4.0	5.7	8.1	2.7	4.0	5.9	8.3	4.2	6.4	9.2	13.1	4.3	6.5	9.4	13.4
1000	3.3	4.9	7.2	10.2	3.4	5.1	7.3	10.4	5.3	7.9	11.5	16.4	5.4	8.1	11.8	16.8
1200	4.0	5.9	8.6	12.2	4.0	6.1	8.8	12.5	6.4	9.5	13.8	19.6	6.5	9.8	14.2	20.1
1400	4.6	6.9	10.0	14.2	4.7	7.1	10.3	14.6	7.4	11.1	16.1	22.9	7.6	11.4	16.5	23.5
1600	5.3	7.9	11.5	16.3	5.4	8.1	11.7	16.7	8.5	12.7	18.4	26.2	8.7	13.0	18.9	26.8
1800	5.9	8.9	12.9	18.3	6.1	9.1	13.2	18.8	9.5	14.3	20.7	29.5	9.8	14.7	21.3	30.2
2000	6.6	9.9	14.3	20.3	6.7	10.1	14.7	20.8	10.6	15.9	23.0	32.7	10.9	16.3	23.6	33.5
2200	7.2	10.9	15.8	22.4	7.4	11.1	16.1	22.9	11.7	17.5	25.4	36.0	11.9	17.9	26.0	36.9

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SECTION 4

Splitting the Tractor

SPLITTING THE TRACTOR

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4A.1 SPECIFICATION

Coupler Rear Drive end float	:	0.014 to 0.1 inch (0.38 to 2.54 mm).

Torque Values

Front support Casting to Engine	:	173.32 lbf. ft. (235 Nm).
Engine to Transmission Case	:	50 – 57 lbf. ft. (68 – 77 Nm).
Transmission Case to Centre Housing	:	70 – 80 lbf. ft. (95 – 108 Nm).

Special Tool

SER / 054	:	Tractor Spliting stand

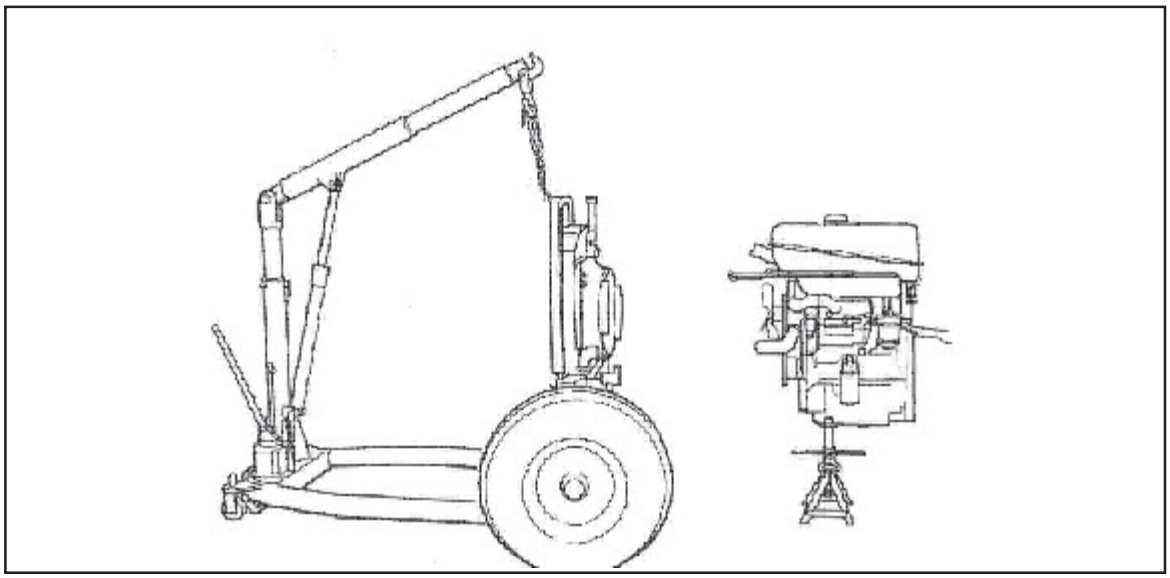

Fig 1

4A.2 SPLITTING THE TRACTOR BETWEEN THE FRONT AXLE AND ENGINE

Splitting Procedure

Dis-assembly

WARNING : Take care to keep the front axle assembly level once it has been withdrawn from the engine, otherwise it could lead to improper balance and cause injury.

1. If the tractor is four-wheel drive, first disconnect the drive shaft at the front axle end. To turn the drive shaft to gain access to the coupling split pin it may be necessary to move the tractor under power. The shaft cannot be turned without the engine running. Remove the drive shaft assembly.
2. Apply the tractor parking brake, remove the front weights (if fitted), and fit chocks to hold the rear wheels.
3. Disconnect the battery terminal.
4. Disconnect the air cleaner hoses.
5. Disconnect the head light wiring connections in grill assembly and remove the bonnet from the assembly.
6. Drain the cooling system via the drain plugs on the radiator and cylinder block.
7. Disconnect the radiator top and bottom hoses.
8. Disconnect the radiator support bar.
9. Disconnect the hydrostatic steering cylinder hoses from the cylinders.
10. Disconnect the remote greasing lines.
11. Fit hard wood wedges between the front axle casting and centre beam on both sides, to prevent the beam from pivoting.

11. Support the front axle assembly using crane and chains.
12. Support the tractor under the engine sump using suitable stand.
13. Remove front support casting securing bolts and nuts.
14. Carefully roll the two front wheels, front axle and crane forwards away from the engine.

Re-assembly

For reassembling, follow the reverse procedure above,

1. Reconnect the hydrostatic steering cylinder hoses to the steering cylinder and bleed air from the system. If necessary, top up the oil in reservoir.
2. Tighten all bolts and nuts as per the torque value.

Splitting the tractor between the engine and transmission

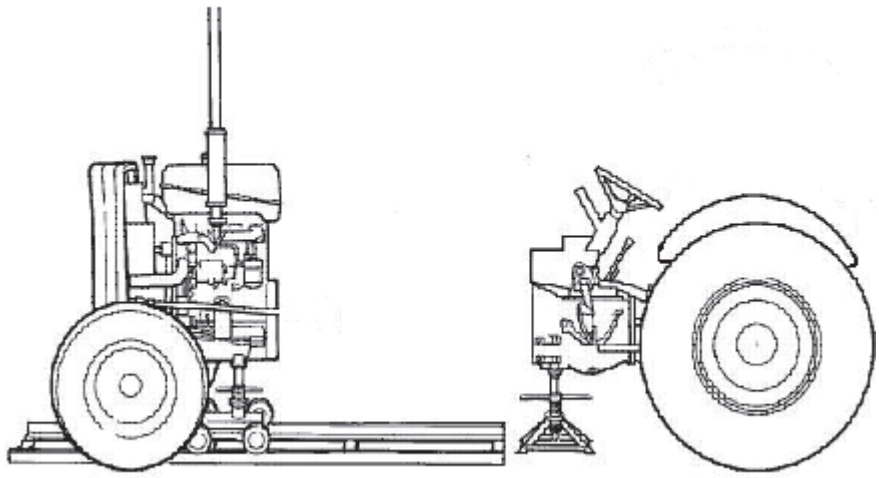

Fig 2

4A.3 SPLITTING THE TRACTOR BETWEEN THE ENGINE AND TRANSMISSION

Splitting Procedure

Special Tool

SER / 054 - Tractor spliting stand

Dis-assembly

1. If the tractor is four-wheel drive, first disconnect the drive shaft at the front axle end. To turn the drive shaft to gain access to the coupling split pin it may be necessary to move the tractor under power. The shaft cannot be turned without the engine running. Remove the drive shaft assembly
2. Apply the tractor parking brake and fit wheel chocks to hold the rear wheels.
3. Disconnect the battery terminals and remove the battery earth cable and battery.
4. Disconnect the head light wiring connections in grille assembly and remove the bonnet / hood from the tractor.
5. Disconnect the air cleaner hose.
6. Disconnect the hydrostatic steering hoses and pipe joints.
7. Disconnect the hoses from the fuel system and remove the fuel sender unit connections.
8. Remove the two bolts securing the battery platform to the rear of the Engine.
9. Disconnect the front wiring harness.
10. Disconnect tractormeter drive cable from the rear of the engine.
11. Disconnect the throttle control linkages.
12. Loosen the Starter motor bolts and remove the starter motor with gasket.
13. Release the actuating brake and clutch rods through pins.
14. Place hard wooden wedge between the Front support casting and centre beam to avoid pivoting.

16. Using the tractor spliting stand SER / 054 , support the tractor under the transmission with the fixed stand, and under the engine sump with the rails and trolley.

17. Remove all engine mounting bolts.

18. Roll the engine and front axle assembly forward with engine mounting gasket.

Re-assembly

For reassembling, follow the reverse procedure above,

1. Align the engine with the transmission case and turn the flywheel and, at the same time, roll the engine and front axle towards the transmission making sure that primary and secondary splines in main drive housing engages with the splines of primary and secondary clutch plates. Continue pushing and turning the flywheel until the engine and transmission flanges meet.

CAUTION : Do not force, fit or tighten any of the bolts until the two flanges meet,since serious damages may occur to the transmission and clutch.

2. Use new gaskets while re-assembling.

3. Refit all engine mounting bolts and tighten to a torque of 55 lbf. ft. (75 Nm)

4. For completing the rest of the tractor , follow the reverse procedure given above and

5. Reconnect the hydrostatic steering and pipe lines and bleed the air from the system and if necessary, top up the oil in reservoir.

6. Adjust the clutch play.

4A.4 SPLITTING THE TRACTOR BETWEEN THE TRANSMISSION AND REAR TRANSMISSION.

Splitting Procedure

Special Tool

SER / 054 - Tractor spliting stand

Disassembly

1. Fit wheel chocks to hold the rear wheels.

2. Drain the transmission oil via the drain plugs on the transmission case and centre housing.

3. Disconnect the battery terminals.

4. Disconnect the foot throttle linkages and then remove the step left - hand and right - hand step assemblies.

5. Disconnect the brake rods.

Splitting the tractor in between transmission and centre housing

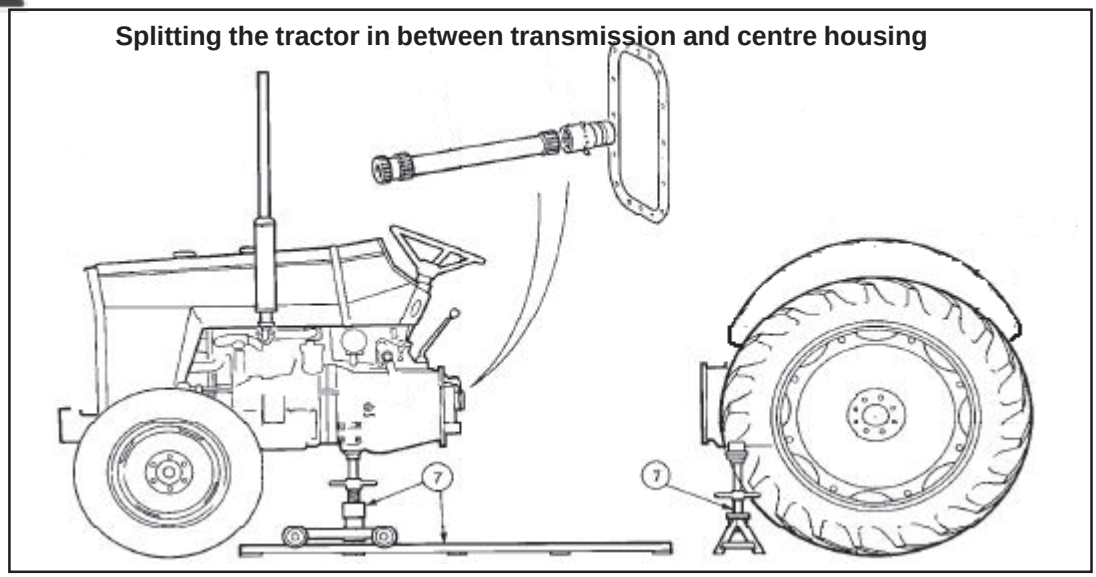

Fig 3

6. Disconnect the rear harness connections.

7. Remove the fuel tank assembly (Refer section 5.17).

8. Using the SER / 054 tractor spliting stand, support the tractor under the transmission with the trolley on rails and with fixed stand under the centre housing.

8. Remove all bolts connecting the transmission and centre housing and remove the drive shaft.
9. Roll the engine and transmission assembly forward.
10. If necessary remove therear drive shaft and shear / fuse coupler.
11. Discard the gasket between the transmission case and centre housing.

Re-assembly

For reassembling, follow the reverse procedure given above, and

1. Clean both flanges of the transmission and centre housing to remove traces of oil / grease.
2. Use new gaskets while re-assembling.
3. Take carethat the rear drive shaft and shear coupler are correctly located and installed.
4. Ensure that the Hydraulic pump coupling is located properly.
5. Fit two guide pins approximately 100 mm long into the top, left and right sides of the centre housing flange
6. Fit the shear coupler on to the pinion with the holes around the tube towards the front.
7. Roll the engine and transmission assembly into engagement with the centre housing, ensuring alignment of the shear coupler splines onto the rear pinion splines and hydraulic pump coupling splines onto the transmission front PTO drive shaft.

   Note : *If necessary, remove the side cover for easy alignment of shear coupler with pinion.*

8. Using a suitable lever, turn the flywheel and align the transmission with the corresponding holes in the centre housing. Continue turning until the two flanges meet.

   

   CAUTION : Do not force, fit or tighten any of the bolts until the two flanges meet, since serious damages may occur to the transmission and PTO.

9. Refit all mounting bolts and tighten to a torque of 83 lbs. ft. (112 Nm)
10. Refill the transmission oil to the required level.
11. Re-connect the brake rods and adjust the brake.

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Section 5

5. SHEET METAL

SECTION 5

SHEET METAL

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5.1GENERAL

The hood,binnacle, footsteps and fenders are all made of sheet metal. They provide protection for the operator. The tractor must not be operated with any of these sheet metal components removed.

To prevent corrosion, always keep the sheet metal components clean and immediately touch-up with paint if any painted surfaces become chipped.

Bolt Torques:

Hinge mounting bolts	…	15 - 21 lbf.ft (20 - 28 Nm).
Gas strut mounting bolts	…	15 - 21 lbf.ft (20 - 28 Nm).
Lock plate mouting bolts	…	15 - 21 lbf.ft (20 - 28 Nm).
Binnacle mounting bolts	…	30 - 41 lbf.ft (40 - 55 Nm).
Fender mounting bolts	…	258 - 295 lbf.ft (350 - 400 Nm).
Extension plate	…	15 - 21 lbf.ft (20 - 28 Nm).
Foot step mouting bolts	…	55 - 63 lbf.ft (75 - 86 Nm).
Head lamp mounting bolts	…	18 - 26 lbf.ft (25 - 35 Nm)
Fuel tank mounting bolts (Front)	…	22 - 36 lbf.ft (30 - 35 Nm).
(Rear)	…	44 - 52 lbf.ft (60 - 70 Nm).

5.2 HOOD

Removal and Refitment

Removal

1. Pull the hood latch cable and lift the hood and lock.
2. Disconnect the battery terminals.
3. Remove the head light wiring connections on both at binnacle end.
4. Support the hood with suitable wooden piece at suitable place.
5. Remove the instrument panel cover refer operation 5.13.
6. Remove the gas strut ball joint at bottom point.
7. Remove the hinge mounting bolts on both left and right hand side.
8. Lift the front edge and pull forward to clear the seal to remove the hood.

CAUTION:While removing the gas strut , the hood should be in fully opened condition, otherwise it may create an injury to the operator. Handle the hood carefully and place in scratch free area.

Refitment

9. Reverse procedures 1 to 8, except:

a. Ensure that the rear edge of the hood is located beneath the lip of the seal.

b. Tighten the hinge mounting bolts to a torque of 15 - 21 lbf.ft (20 - 28 Nm).

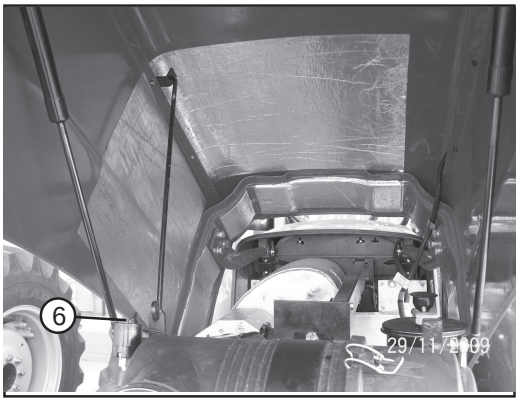

Fig 1

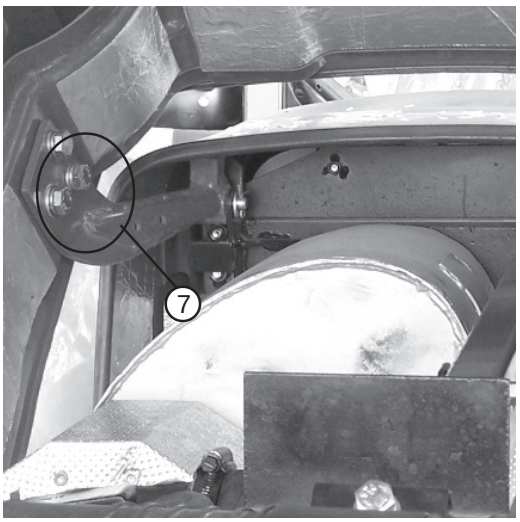

Fig 2

5.3 AIR CLEANER

Removal and Refitment

Removal

1. Pull the hood latch cable and lift the hood.
2. Disconnect the battery terminals.
3. Remove hose clamps and disconnect the hoses from air cleaner.
4. Remove the vaccum switch wiring connections.
5. Remove two bolts and spring washers securing the air cleaner and remove it.
6. Remove the clamp from the air cleaner.

Refitment

7. Reverse procedures 1 to 6.

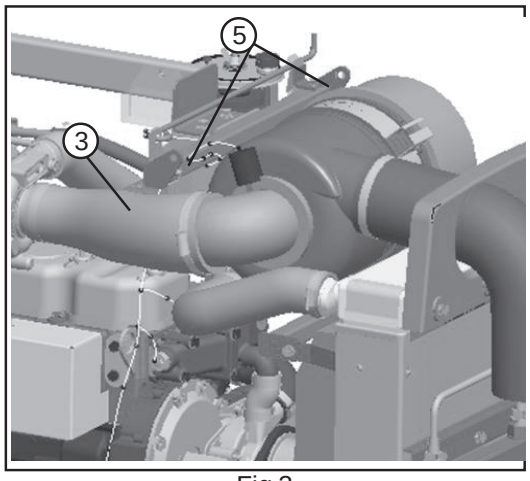

Fig 3

5.4 DRY TYPE AIR CLEANER OVER HAULING

Removal and Refitment

Removal of filter:

1. Unfasten or unlatch the service cover . Because the filter fits tightly over the outlet tube to create the critical seal there will be some initial resistance similar to breaking the seal on a jar.
2. Gently move the end of the filter back and forth to break the seal. Avoid knocking the filter against the housing.
3. The inner secondary filter element must be replaced every third primary filter change. Remove the inner secondary filter as you would the primary filter.
4. Make sure you cover the air cleaner outlet tube to avoid any unfiltered contaminant dropping into the engine.

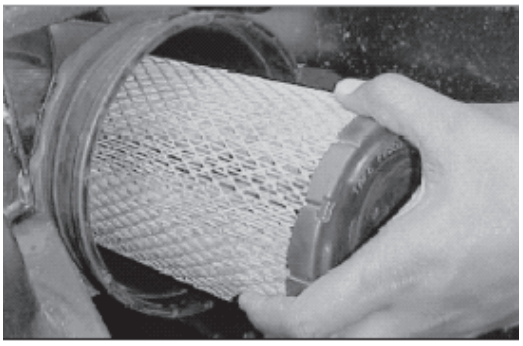
Fig 4

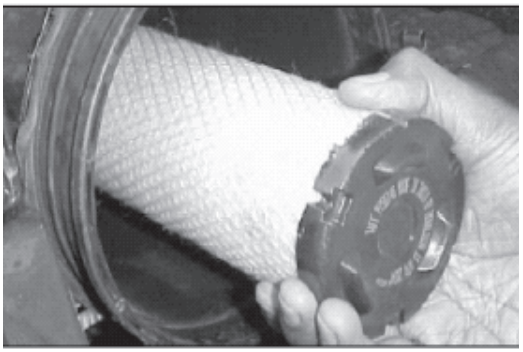
Fig 5