

AGCO ALLIS 8745 & 8765 TRACTORS
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Introduction and Safety in the Workshop

Introduction and Safety in the Workshop **Section 1 – Part A**

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Introduction and Safety in the Workshop

INTRODUCTION

The purpose of this manual is to assist Dealers and Distributors in the efficient repair and maintenance of AGCO farm machinery. 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. Where 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. Example: 1-7A would be Operation 1 in Section 7, Part A. This simplifies cross referencing and enables the subject to be found easily.

Definition of Terms

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

Removal 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. Where necessary, tools may be ordered through the AGCO Tool Program.

Repairs and Replacements

When service parts are required it is essential that only genuine AGCO replacements are used.

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

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

In certain territories, legislation prohibits the fitting of parts not to the tractor manufacturer's specification. Torque wrench setting figures given in the Workshop Manual must be strictly adhered to. 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 other than genuine AGCO parts. All AGCO replacements have the full backing of the manufacturer's warranty. AGCO 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.

Introduction and Safety in the Workshop

SAFETY ALERT SYMBOL AND TERMS

This safety alert symbol means
**ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!**



The safety alert symbol identifies important safety messages on machines, safety signs, in manuals, or elsewhere. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

★ ACCIDENTS DISABLE AND KILL ★

★ ACCIDENTS ARE COSTLY ★

★ ACCIDENTS CAN BE AVOIDED ★

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. AGCO 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 AGCO 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 programme. 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 – DANGER, WARNING and CAUTION

Whenever you see these signal words and symbol  used in this manual and on decals, you MUST take note of their instructions.



DANGER: The symbol and the word DANGER indicates an imminently hazardous situation which, if

not avoided, will result in DEATH OR VERY SERIOUS INJURY.



WARNING: The symbol and the word WARNING indicates a potentially hazardous situation. If the instructions or procedures are not correctly followed it could result in PERSONAL INJURY, OR LOSS OF LIFE.



CAUTION: The symbol and the word CAUTION is used to indicate a potentially hazardous situation that, if not avoided, may result in MINOR OR MODERATE INJURY.

IMPORTANT: The word IMPORTANT is used to identify special instructions which, if not observed, could result in damage to, or destruction of the machine, process or its surroundings.

NOTE: The word NOTE is used to indicate points of particular interest for more efficient and convenient repair or operation.

Introduction and Safety in the Workshop

SAFETY DECALS



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

Replace any Danger, Warning, Caution or Instruction Decals 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 tractor or 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 practised 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 cause accidents. 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, discing, 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 and the greater the exposure the worse the damage. If you think the noise is excessive, 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.
- Stabilise 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.

Introduction and Safety in the Workshop

Compressed Air

- The pressure from a compressed air line is often as high as 7 bar (100 lbf/in²). It is perfectly safe if used correctly. 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 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 poor 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 you know where the nearest isolating switch is located. Always use an earthed (grounded) 3 pin electrical cord.

GENERAL CONSIDERATIONS

Solvents

- Use only cleaning fluids and solvents that are known to be safe. Certain types of fluids can cause damage to components such as seals, etc., and can cause skin irritation. Solvent labels should be checked that they are suitable not only for the cleaning of components and individual parts, but also that they DO NOT affect the personal safety of the user.

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.
 - Work cleanly, disposing of waste material into proper containers.
 - 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 only takes a 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 that it is kept fully stocked at all times.

Introduction and Safety in the Workshop

OPERATIONAL CONSIDERATIONS

- Stop the engine, if at all possible, 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 beside the tractor or attempt to by-pass the safety start switch. Make a practise of checking that neutral start switches are functioning correctly.
- Avoid prolonged running of the engine in a closed building or in an area with inadequate ventilation as exhaust fumes are highly toxic.
- Always turn the radiator cap to the first stop to allow pressure in the system to dissipate when the coolant is hot.
- 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.
- 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 housings, casings, etc., before commencing work.
- Certain repair or overhaul procedures may necessitate 'Separating the tractor', either at the engine/gearbox or gearbox/rear axle locations. These operations are simplified by the use of the Tractor Splitting Kit/Stand (Use the AGCO MF3012 Tractor Splitting Track, also available, MF3013 ROPS Cab Stands). Should this equipment not be available, then every consideration must be given to stability, balance and weight of the components, especially if a ROPS 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 washer 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. This will remove the danger of personal injury by oil pressure.
- 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 of personal injury.

- 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.
- Observe recommended precautions as indicated in this Service Manual when dismantling the air conditioning system as escaping refrigerant can cause frostbite.
- 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.

Heed these safety precautions, and the ones found in this manual, and you will protect yourself accordingly. Disregard them and you may become injured for life.

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.

Introduction and Safety in the Workshop

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 realize 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 chafing 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 bearings 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, and gears, and push fit into static locations such as reduction gear

housings. Where possible, always 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.

If, during installation, 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 chafing, cable damage and possible damage by fire.

Tractor Specification

Section 1 – Part B

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Tractor Specification

TRACTOR SPECIFICATIONS

Engine	
Make	AGCO ALLIS diesel.
Type	Turbocharged, direct injection, water cooled diesel.
Model applicable:	
8745 Tractors	AGCO 444T turbocharged engine.
8765 Tractors	AGCO 444T turbocharged engine with wastegate.
PTO power at 2200 engine rpm:	
8745 Tractors	52.1 Kw (70 hp).
8765 Tractors	63,3 Kw (85 hp).
Cylinders	4.
Engine power and torque	Consult the sales promotional leaflet for your model of tractor issued by your local AGCO Dealer at time of sale.
Low idle speed	850 rpm.
Rated engine speed	2200 rpm.
High idle speed	2380 rpm.
Bore	108 mm (4.26 in).
Stroke	120 mm (4.72 in).
Displacement	4,4 liter (268 cu in).
Firing order	1, 2, 4, 3.
Compression ratio	16.5:1
Timing BTDC	Marked on crankshaft pulley.
Valve tip clearance:	
All tractors - Inlet (hot or cold)	0,35 mm (0.014 in).
All tractors - Exhaust (hot or cold)	0,35 mm (0.014 in).
Cooling System	
Type	Thermostat controlled with centrifugal pump to assist circulation. Multi-blade fan driven by a Vee belt from the crankshaft pulley.
Header tank pressure cap rating	0,75 bar (10 psi).
Air conditioner compressor belt deflection	15 mm (1/2 in).
Fan belt deflection	15-20 mm (1/2-7/8 in).
Fuel System	
Type	Dual filters (fuel filter and water separator).
Starting aid	Thermostart.
Fuel injection pump	Stanadyne rotary
Fuel injector:	
Opening pressure	230 bar (3336 psi) when checking.
Adjusting pressure	230-240 bar (3336 psi) when adjusting.
Retaining nut tightening torque	15 Nm (11 lbf ft).
Fuel filter	Lucas.
Water separator	Stanadyne
Lubricating System	
Oil pressure in hot engine at running speed	2,5-4,0 bar (36-58 psi).
Oil pressure at idle speed, minimum	1,0 bar (14.5 psi).

Tractor Specification

Air System

Type Two stage under hood dry element.

Clutch

Type Multi plate - oil cooled clutch.

Clutch adjustment No routine adjustment required.

Transmission

12 x 12 Shuttle gearbox: Twelve speeds forward and reverse. This is achieved by using a four-speed gearbox, compounded by a three-speed range gearbox to give twelve speeds. A forward/reverse unit is situated in front of the gearbox, all gears are synchromesh.

Number of gears forward 12.

Number of gears reverse 12.

12 x 4 Synchromesh gearbox: The 12 x 4 Synchromesh gearbox has 12 forward and 4 reverse speeds. This is achieved by using a three forward and one reverse gearbox with synchromesh on 2nd and 3rd gears. This is compounded by a two speed range gearbox to give six speeds which is further doubled by a manual selector lever situated to the right of the drivers console. Reverse is available in both rangeboxes.

Number of gears forward 12.

Number of gears reverse 4.

Range gearbox: The range gearbox is directly bolted to the rear of the main gearbox forming an integral unit. It is fitted with either a two or three speed unit. It also provides the drive to the power front axle.

Rear Axle

Rear axle maximum static load:

8745 tractors 4536 kgf (10000 lbf) - Normal-duty.

8765 tractors 5443 kgf (12000 lbf) - Heavy-duty.

Rear track - Pressed steel wheels:

8745 tractors 1425-2130 mm (56-84 in) - Normal-duty.

8765 tractors 1525-2235 mm (60-88 in) - Heavy-duty.

Brakes

Type Multi-disc oil immersed.

Model T.S. brake (Tangential Slave).

Parking brake Cable operated on both brakes independent of the foot brake.

Brake fluid Mineral based (Green) - AGCO part No. 3405 389 M1.

Power Take-Off

Two-speed PTO:

540 rpm PTO speed 1902 engine rpm.

1000 rpm PTO speed 2000 engine rpm.

540 rpm PTO shaft:

No. of splines 6.

Outside diameter 34,93 mm (1.375 in).

1000 rpm PTO shaft:

No. of splines 21.

Outside diameter 34,93 mm (1.375 in).

Tractor Specification

Steering

Type	Hydrostatic power steering.
Pump	Transmission mounted gear pump drawing oil from the transmission case.
Turns lock to lock	4.
Steering wheel	Tilt adjustable.

Front Axle – Two-Wheel Drive

Type	Three section with telescopic outer arms.
<i>Front track settings:</i>	
Standard	1372-1981 mm (54-78 in).
Wide row crop	1829-2438 mm (72-98 in).
Maximum static load	4360 kgf (9612 lbf).
Front wheel toe-in	0-5 mm (0-3/16 in).
Turning circle (less brakes)	8 meter (315 in).

Power Front Axle

Type	Center drive, hydraulically engaged with Hydralock differential.		
Model:	Axle model - all center drive	Width across hub flanges	Maximum static load
8745	AG 85	1669 mm (65.76 in)	4500 kgf (9921 lbf)
8765	AG 105	1800 mm (70.92 in)	5000 kgf (11023 lbf)
Toe-in	0-4 mm (0-5/32 in).		
Maximum turning angle	55°.		
<i>Front track settings:</i>			
8745	1407-1908 mm (55 in-75 in).		
8765	1557-2058 mm (61 in-81 in).		
<i>Turning circle (less brakes):</i>			
8745	8 meters (315 in).		
8765	9,2 meters (362 in).		

Wheel and Rim Nut and Bolt Torques

Front axle - two-wheel drive bolts	95 Nm (70 lbf ft).
<i>Power front axle:</i>	
Wheel nuts	270 Nm (200 lbf ft).
Rim to disc nuts	190 Nm (140 lbf ft).
<i>Rear wheels – pressed steel:</i>	
Wheel nuts	325 Nm (240 lbf ft).
Rim to disc nuts	240 Nm (177 lbf ft).

Electrical System

Voltage	12 volt negative ground.
<i>Battery:</i>	
Model	Type 372 (Quantity 2).
SAE rating	590A (each battery).
Ampere hour	120.
Reserve capacity	110 min.

Tractor Specification

Starter motor:

Type	Solenoid engaged pinion, safety start device operated by a gear shift lever and on the PTO.
Size	2,2 Kw.

Alternator:

	Cab tractor	Footstep tractor
Type	A127-70.	A127-45.
Size	70 amp.	45 amp.
Regulating voltage	14.2 volt.	14.2 voll.

Light bulb sizes and part No.:

Head light	45/40 W - Continental (white) - 961 866 M1.
Work light	55 W - Halogen H3 - 1628494 M1.
Stop and rear light	5/21 W - Double contact index - 908 543 M1.
Direction indicator light	21 W - Single contact - 1018 729 M1.
Interior light	10 W - Festoon - 3385 821 M1.
Instrument panel lights:	1,2 W - Capless - 3405 185 M1.
Instrument panel lights:	2,0 W - Capless with holder - 3901 628 M91 or 72118805.

Fuses - Continental blade type:

Size and color	2 amp (clear), 5 amp (tan), 7,5 amp (brown), 10 amp (red), 15 amp (blue), 20 amp (yellow), 25 amp (natural white), 30 amp (green).
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Lift Hydraulics

Hydraulic pump:

Type	Single element gear type, transmission mounted.
Drive	Chain drive from PTO clutch housing.

Maximum pump flow 2200 rpm at normal working pressure:

Output	28 liter/min (7.5 US gal/min).
Maximum pressure	210 bar (3046 psi).

Auxiliary Hydraulics

Pump Type	Dual element gear type, transmission mounted.
Drive	Chain drive from PTO clutch housing.

Maximum pump flow 2200 engine rpm at normal working pressure:

Output	38 liter/min (10 US gal/min).
Maximum pressure	210 bar (3046 psi).

Oil strainer:

Type	100 micron washable.
Location	Right-hand side of rear axle housing.

Oil Filter:

Type	Centrifugal washable.
Location	Manifold block, right-hand side of rear axle housing.

Tractor Specification

Auxiliary hydraulic control valves:

Type	Open center.
Number of sections	2, 3 or 4.
Type of sections available	Detent with pressure kickout plus float.
Alternative sections available	Detented with pressure kick-out. Motor spool with detent. Zero leak. Power Beyond - end cover. Hydraulic trailer brake.

Combined flow at quick release coupling at 2200 engine rpm:

Combined flow 540/1000 PTO	66 liter/min (17.4 US gal/min).
Pressure at quick release coupling with combined flow at 2200 engine rpm.	210 bar (3046 psi) maximum.

Trailer brake valve (optional):

Make	Bosch.
Ratio	4:1.
Piston diameter	12 mm.
Maximum pressure to brakes	135 bar (1960 psi).
Maximum oil flow to trailer brake	15 liter/min (4 US gal/min).

Drawbars

Standard:

Maximum static load:

Inner position	1180 kgf (2601 lbf).
Center position	1180 kgf (2601 lbf).
Fully extended position	1180 kgf (2601 lbf).

Distance to PTO shaft:

Inner position	250 mm (10 in).
Center position	350 mm (14 in).
Fully extended position	400 mm (16 in).
Drawbar face to center of PTO shaft	200 mm (7.9 in).
Drawbar side swing from center	221 mm (8.70 in).

Extended:

Maximum static load:

Inner position	1180 kgf (2601 lbf).
Fully extended position	1180 kgf (2601 lbf).

Distance to PTO shaft (selected by PTO shaft):

Fully extended position - (540 rpm)	350 mm (14 in).
Fully extended position - (1000 rpm)	400 mm (16 in).
Drawbar face to center of PTO shaft	239 mm (9.4 in).
Drawbar side swing from center	200 mm (7.9 in).

Lift Linkage

Linkage types:

8745, 8765 - basic	Normal-duty fixed ball ends - category 2.
8745, 8765 - optional	Heavy-duty telescopic ends - category 2.

Lift capacity at 610 mm (24 in) behind lift balls:

With no assistor cylinders- basic	1860 kgf (4100 lbf) - 24 in behind link ends.
With 2 x 28 mm assistor cylinders - optional	2812 kgf (6200 lbf) - 24 in behind link ends.

Air Conditioning System – Cab Tractors

Refrigerant type	R134a.
Compressor type	SD7H15
Refrigerant oil type	PAG (SP-20)
Quantity of oil	190 cc (6.4 fl oz) - total system capacity.
Drive belt deflection	12-15 mm (1/2-5/8 in).
Refrigerant capacity	1.4 kg (3.2 lb).

Capacities

Fuel tank – Cab tractors:

Single tank	127 liters (33.5 US gal).
Twin tanks (optional)	189 liters (50 US gal).

Fuel tank – Footstep tractors:

Single tank	130 liters (34.3 US gal).
Twin tanks (optional)	200 liters (52.8 US gal).

Engine oil

9,5 liters (10 US qts).

Cooling system

7,0 liters (7.4 US qts).

Transmission/hydraulics:

Transmission case	50,0 liters (52.8 US qts).
Rear axle planetary hubs - 8765 only - each side ...	2,9 liters (3 US qts).

Power front axle:

Oil capacity – planetary – each side:

8745	1,0 liter (1.1 US qts).
8765	1,2 liter (1.26 US qts).

Oil capacity – center section:

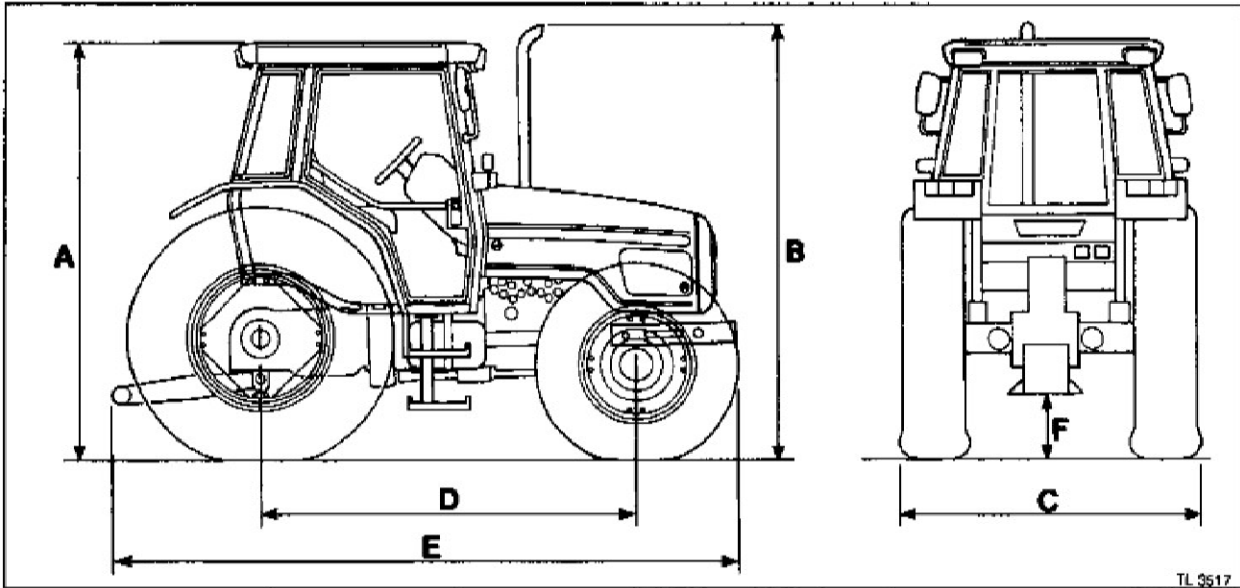
8745	5,6 liter (5.9 US qts).
8765	7,6 liter (8 US qts).

Dual windshield and rear window washer tank – Cab tractors:

Capacity	2,5 liter (2.64 US qts).
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Tractor Specification

CAB TRACTOR DIMENSIONS AND WEIGHTS



TL 9517

Dimensions - mm (in)

Tractor model - Cab	8745	8765
Tire size (rear)	16.9R34	16.9R38
Track setting	1640 (64)	1740(68)
A. Height over cab	2650 (104)	2650 (104)
B. Height over exhaust	2750 (108)	2750 (108)
C. Overall width	2100 (83)	2200 (87)
D. Wheel base:		
Two-wheel drive	2510 (99)	2510 (99)
Power front axle	2513 (99)	2513 (99)
E. Overall length:		
Two-wheel drive	4200 (165)	4200 (165)
Power front axle	4203 (168)	4203 (165)
F. Minimum ground clearance (average)	360 (14)	360 (14)

The weights and dimensions can vary, depending on the specification of tires, optional equipment, size of fuel tank etc. The dimensions and weights quoted are based on a tractor with the most common build and tire size, therefore a slight variation may be found between these figures and your tractor.

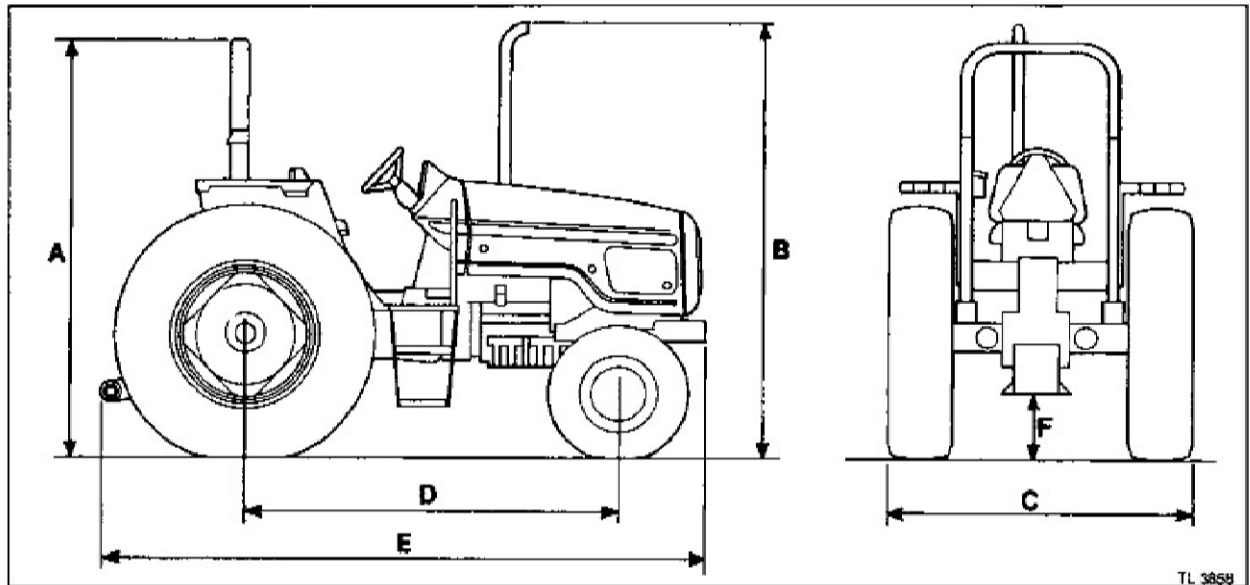
Weights - kg (lb)

Tractor model - Cab - Two-wheel drive only	8745	8765
Front axle	1420 (3131)	1420 (3131)
Rear axle	2200 (4850)	2213 (4879)
Total	3570 (7870)	3583 (7899)

Tractor model - Cab - Power front axle	8745	8765
Front axle	1666 (3673)	1670 (3682)
Rear axle	2287 (5042)	2300 (5071)
Total	3925 (8653)	3940 (8686)

Tractor Specification

FOOTSTEP TRACTOR DIMENSIONS AND WEIGHTS



Dimensions - mm (in)

Tractor model - Footstep	8745	8765
Tire size (rear)	16.9R34	16.9R38
Track setting	1640 (64)	1740 (68)
A. Height over ROPS	2650 (104)	2650 (104)
B. Height over exhaust	2760 (109)	2760 (109)
C. Overall width	2100 (83)	2200 (87)
D. Wheel base:		
Two-wheel drive	2510 (99)	2510 (99)
Power front axle	2513 (99)	2513 (99)
E. Overall length:		
Two-wheel drive	4200 (165)	4200 (165)
Power front axle	4203 (165)	4203 (165)
F. Minimum ground clearance (average)	360 (14)	360 (14)

The weights and dimensions can vary, depending on the specification of tires, optional equipment, size of fuel tank etc. The dimensions and weights quoted are based on a tractor with the most common build and tire size, therefore a slight variation may be found between these figures and your tractor.

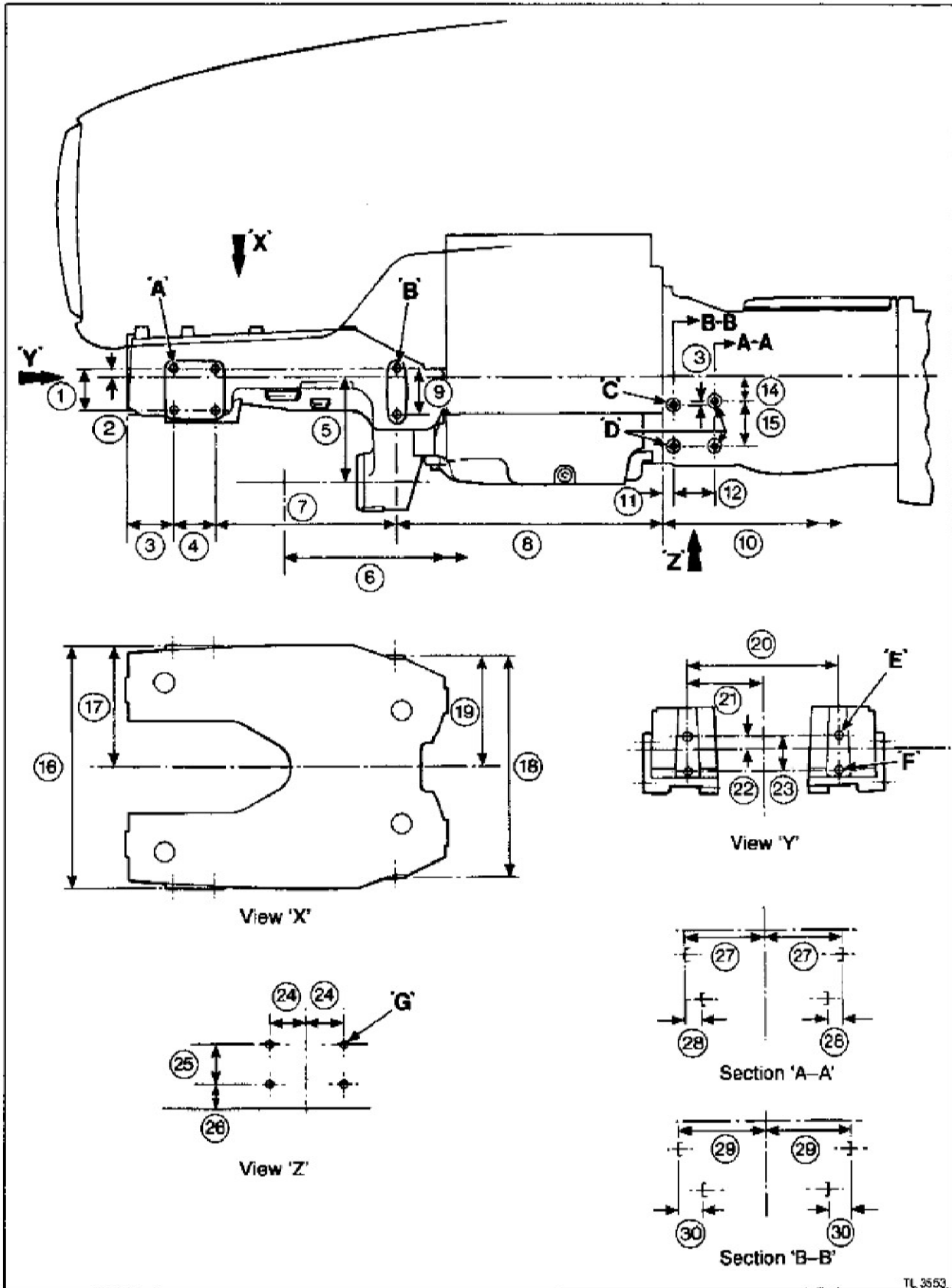
Weights - kg (lb)

Tractor model - Footstep - Two-wheel drive only	8745	8765
Front axle	1240 (2734)	1240 (2734)
Rear axle	2087 (4601)	2100 (4630)
Total	3287 (7246)	3300 (7275)

Tractor model - Footstep - Power front axle	8745	8765
Front axle	1520 (3351)	1524 (3360)
Rear axle	1970 (4343)	1983 (4372)
Total	3470 (7650)	3485 (7683)

Tractor Specification

TRACTOR MOUNTING POINTS



TL 3553

Fig.1

Tractor front mounting points

MOUNTING POINTS

Refer to Fig.1 and Fig.2.

Tractor Front (Fig.1):

1. 101,6 mm (4 in).
2. 20 mm (0.788 in).
3. 115,4 mm (4.547 in).
4. 101.6 mm (4 in).
5. 260 mm (10.244 in).
6. 2438 mm (96.057 in) – two-wheel drive.
2441 mm (96.175 in) – four-wheel drive.
7. 448 mm (17.651 in).
8. 664,75 mm (26.191 in).
9. 114 mm (4.492 in).
10. 1406 mm (55.396 in) – to center of rear axle.
11. 25.4 mm (1 in).
12. 101.6 mm (4 in).
13. 9,85 mm (0.388 in).
14. 60,46 mm (2.382 in).
15. 111,25 mm (4.383 in).

View arrow 'X':

16. 600 mm (23.640 in).
17. 300 mm (11.820 in).
18. 550 mm (21.670 in).
19. 275 mm (10.835 in).

View arrow 'Y':

20. 381 mm (15.011 in).
21. 190 mm (7.486 in).
22. 31,87 mm (1.256 in).
23. 86 mm (3.388 in).

View arrow 'Z':

24. 91,95 mm (3.623 in).
25. 101,6 mm (4 in).
26. 60,2 mm (2.372 in).

Section 'AA':

27. 197,61–196,09 mm (7.786–7.765 in).
28. 39,62–36,58 mm (1.561–1.441 in).

Section 'BB':

29. 216,28–215,52 mm (8.521–8.491 in).
30. 57,53–56,77 mm (2.267–2.238 in).

Hole sizes:

- A. 4 holes M20 – 2,5 x 38 mm deep.
- B. 2 holes M20 – 2,5 x 38 mm deep.
- C. 1 hole 5/8 in – 11 UNC x 23,8 mm deep.
- D. 3 holes 5/8 in – 11 UNC x 31,8 mm deep.
- E. 2 holes 22,33/22,00 (0.867 in) diameter through.
- F. 2 holes M20 – 2,5 through.
- G. 4 holes 5/8 in – 11 UNC x 31,7 mm deep.

