

Massey Ferguson®
1455
Compact Tractor - Power Shuttle
WORKSHOP SERVICE MANUAL
4283082M1

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01 - General Information

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INTRODUCTION

INTRODUCTION

The purpose of this manual is to assist dealers and distributors in the efficient repair and maintenance of 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.

NOTE: To assist with location information, each division of the manual is preceded by a contents page listing the operations in numerical order.

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 performance of an operation requires the use of a special tool. The tool is called out in that operation.

Indexing

For convenience, the manual is divided into parts, sections and sub-sections with each page number bearing the part and section number. Page numbers are located at top outside of each page. Beneath the page number is written title of manual division

Page number example: 01-15

Division 01, page 15

This simplifies cross-referencing and enables the subject to be found easily.

NOTE: Page numbers will be consecutive within each sub-section. A void of page numbers may be used between these sub-sections in order to provide space for future amendments and also to indicate the beginning/end of adjustments and also to indicate the beginning/end of adjacent sub-sections.

Special Tools

Where the use of a special tool is specified in an operation, the tool will be called out.

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.

Make certain proper tools are available when starting the job.

Repair and Replacements

When service parts are required, it is essential that only genuine AGCO / Challenger / Massey Ferguson replacements are used.

- Attention is particularly drawn to the following points concerning repairs and the fitting of replacement parts 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 / Challenger / Massey Ferguson parts. All replacements have the full backing of the manufacturers warranty. AGCO / Challenger / Massey Ferguson Distributors and Dealers are obliged to supply only genuine service parts.

Repair Time Schedule

The operation listed in the Repair Time Schedule refer to those described in this manual. The time set against each operation in the schedule is established by performing the actual operation standard machines using special tools where applicable. The Repair Time Schedule for use with this manual is issued as a separate publication.

NOTE: Repair Time Schedules are issued to Challenger / Massey Ferguson Distributors and Dealers only and are not for general publication.

Introduction

Amendments

Under normal conditions, revised pages issued carry the same number as the existing pages requiring amendment. The new pages are inserted in place of the existing ones. The old pages should then be discarded.

In some cases additional pages or completely new sections may be issued. These pages are to be inserted immediately following the page carrying the next lowest page number, or section number as appropriate.

Where new pages are required to be positioned between existing pages, the new page numbers will contain a suffix letter.

Example New Page Number: 07-16a.

This page is inserted after existing page number 07-16 and before page number 07-17. Correspondingly a further new page numbered 07-16b would be positioned after 07-16a.

NOTE: Service bulletins and Amendments Sheets are issued to the AGCO Distributors and Dealers only and are not for general publication.

SAFETY PRECAUTIONS

SAFETY PRECAUTIONS

- Make sure that all persons are in a safe position before starting the engine, or operating ANY of the controls.
- Always stop the engine before leaving the operator's platform.
- Wait for all moving parts to stop COMPLETELY before starting any work on the tractor.
- Before starting service procedures, attached equipment should be resting on the ground and all hydraulic control levers operated back and forth several times with engine stopped.
- If it becomes necessary to go under raised attachment (i.e.: to perform adjustments, etc.), safety stands must be used to support the attachment.
- Make sure the battery ground cable is disconnected before working on or near the electrical system of electrical system components.
- Keep hands, feet and clothing a safe distance away from moving belts, pulleys and other moving parts. Make sure all safety shields are installed.
- Be extra careful when performing any checks, inspections, adjustments or tests that require operating the engine, the hydraulic controls, OR with the machine in motion.
- Make sure dependable jacks of adequate lifting capacity AND suitable stands (or wooden blocking) are used to securely block up the machine when removing any of the wheels or axles.
- Before any attempt is made to disconnect or remove any hydraulic component, make sure the hydraulic pressure within the system is relieved and the engine is stopped.
- Carry out the repair procedures in a "common sense" manner. Safety procedures cannot be overemphasized when working on, or around machinery, especially when working on engine driven and /or hydraulically actuated equipment.
- Safety also depends upon the skill of the serviceman in the use of tools and other shop equipment while performing the recommended service procedures.
- Exercise extreme caution when testing hydraulic or fuel system components as fluid ejected under high pressure can easily penetrate skin causing serious infection.
- When it is necessary to remove hoods, shields, ROPS, etc. to conduct repair operation, all items must be reinstalled to unit and secured in original fashion.
- Do not bend, drill holes, or weld on the ROPS structure, if the ROPS is damaged in any way it must be replaced.
- Personal injury may result if these precautions are not followed.
- Look for this symbol to point out important safety precautions. It means: ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED.

Safety Precautions

NOTES

TRACTOR IDENTIFICATION

TRACTOR IDENTIFICATION

Model / Serial Numbers

Each tractor is identified by means of Tractor model and serial numbers. As a further identification, engine and chassis are provided with identification numbers.

To assist the parts department in ordering parts, list the tractor model and serial numbers on the parts order form.

FIGS. 1–3: Tractor identification plate (1) located below operator's seat on left-hand side of vertical floor panel. Contains model number, machine series number and weight in addition to Tractor serial number.

Tractor Model	M.S.N.

Tractor Serial Number

Engine Model Number

Engine Serial Number

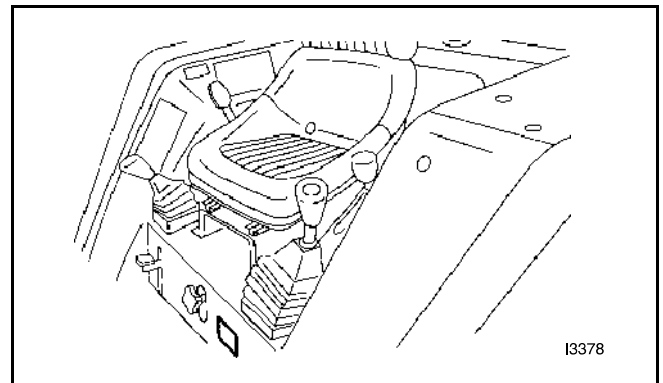


FIG. 1

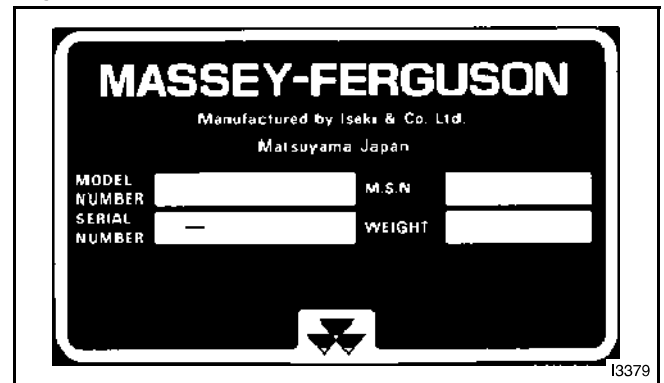


FIG. 2

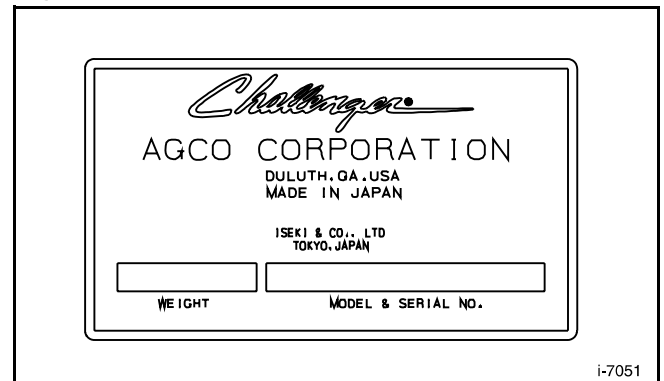


FIG. 3

Tractor Identification

FIG. 4: Engine model number (1) is cast on left side of engine block, below the injection pump.

Engine serial number (2) is stamped into cylinder block, above engine model number.

Chassis Number

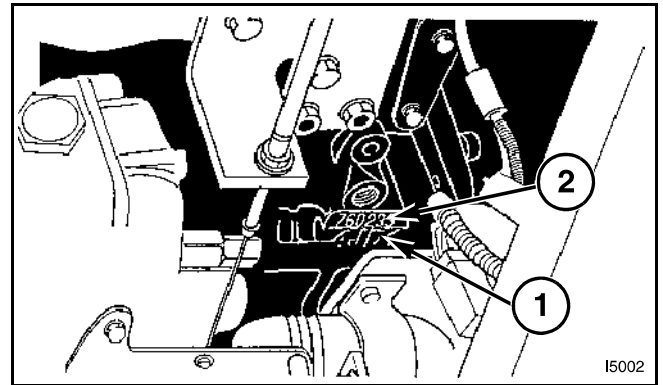


FIG. 4

FIG. 5: Chassis number (1) is stamped in right side of front frame.

NOTE: Reference to left-hand and right hand, uses throughout this book, refers to the position when seated in operator's seat and facing forwards.

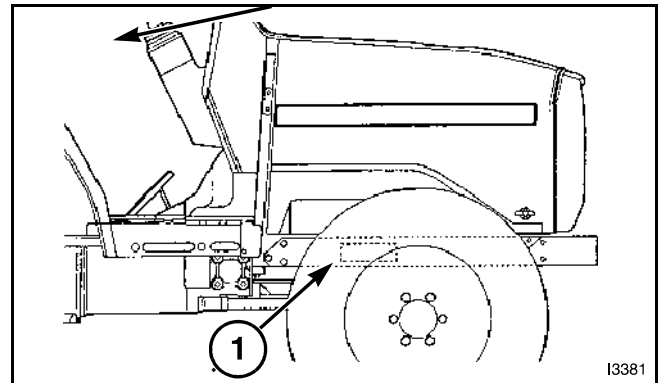


FIG. 5

TORQUE CHARTS

SPECIAL TORQUES

Description	Bolt and Nut (Hardness)	Torque Nm (ft.-lbs.)
Front Axle - 4WD		
Axle bracket - engine bolt torque	M14 (7T)	127-147 (94-109)
Front pivot casting (support) - bolt torque	M12 (7T)	88-108 (65-80)
Rear pivot casting (support) - bolt torque	M18 (7T)	119-136 (88-101)
Front axle final drive - bolt torque	M12 (7T)	88-108 (65-80)
Bearing cover - bolt torque	M8 (7T)	24-33 (18-25)
Wheel shaft cover - bolt torque	M10 (7T)	54-69 (40-51)
Front wheel - bolt torque	M16 (7T)	157-176 (116-130)
Bevel gear case - bolt torque	M8	12-17 (9-13)
Differential Support - bolt torque	M8	12-17 (9-13)
Rear gear - differential support-bolt torque	M8	12-17 (9-13)
Bevel pinion lock nut	See torque procedure - chapter 6A	
Transmission		
Front transmission to engine bolts nuts	M12 (7T)	88-108 (65-80)
Front transmission to spacer transmission - bolts and nuts	M12 (7T)	88-108 (65-80)
Spacer transmission to differential housing - bolt and nuts	M12 (7T)	88-108 (65-80)
Input housing - bolts and nuts	M12 (7T)	88-108 (65-80)
Drive pinion housing - bolts	M10 (7T)	54-69 (40-51)
Drive pinion nut	See torque procudure - chapter 5A	
Differential case - bolts	M12	48-68 (36-51)
Differential case - ring gear nuts	M10 (7T)	54-69 (40-51)
Rear Axle		
Rear axle to differeintal housing bolts	M10 (7T)	54-69 (40-51)
Brake housing - bolts	M10 (7T)	54-69 (40-51)
Rear wheel - bolts and nuts	M22	363-382 (268-282)
Cylinder Cover and Other		
Hydraulic cylinder cover to differential housing bolts and nuts	M10 (7T)	54-69 (40-51)
Hydraulic cylinder head bolts	M12 (7T)	88-108 (65-80)
Hydraulic control valve bolts	M8	12-17 (9-13)
Lower link bracket bolts and nuts	M14	69-78 (51-58)