MASSEY FERGUSON

MF 2700E

Series Tractors

Models: 2705E / 2706E

SERVICE MANUAL

FROM MASSEY FERGUSON

Workshop Service Manual

MASSEY FERGUSON

2705E
2706E

North America
4205 River Green Parkway, Duluth GA 30096 USA

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4283585M1
NA
English

1. General

1.1 Introduction

1.1.1 The service manual

Read the table of contents and basic layout. Become familiar with all parts of this service manual. This service manual gives the technician very important information.

Machine movement when in normal use determines right-hand and left-hand.

This manual covers general safety practices for this machine.

The photos, illustrations, and data used in this manual were current at the time of printing. Inline production changes can make machines vary from the information in the service manual. The manufacturer reserves the right to redesign and change the machine as necessary without notification.

WARNING:
In some of the illustrations and photos used in this manual, shields or guards may have been removed for clarity. Never operate the machine with any shields or guards removed. If the removal of shields or guards is necessary to make a repair, they must be replaced before operation.

1.1.2 Replacement parts

To receive prompt efficient service, remember to have the following information:

Correct part description and part number
Model number of the machine
Serial number of the machine

1.1.3 Units of measurement

Measurements are given in metric units followed by the equivalent in US units. Hardware sizes are given in millimeters for metric hardware and inches for US hardware.

1.1.4 Serial number plate

The serial number plate (1) is located below the operator seat.

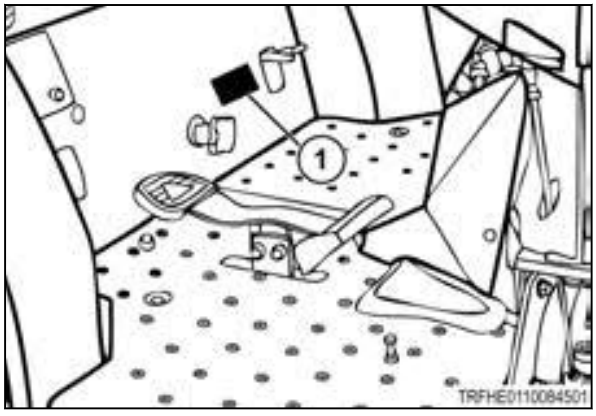

Fig. 1

The serial number plate contains the model number and serial number.

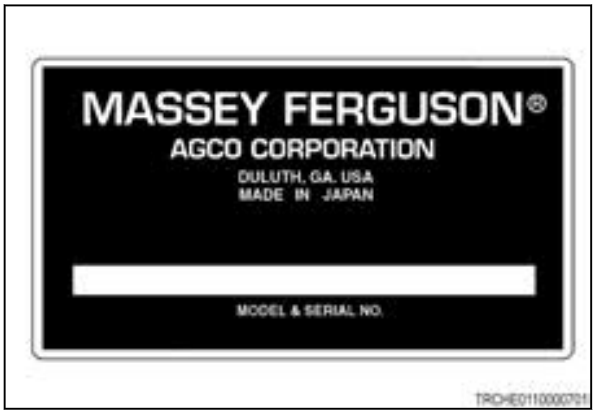

Fig. 2

1.1.5 Engine identification

The engine identification plate (1) is located on the left-hand side of the engine.

Fig. 3

The engine identification plate contains the engine model number (1), the engine serial number (2), and the month(s)/year(s) (3) the engine was assembled.

Engine model number:	
Engine serial number:	
Assembled month(s)/ year(s):	

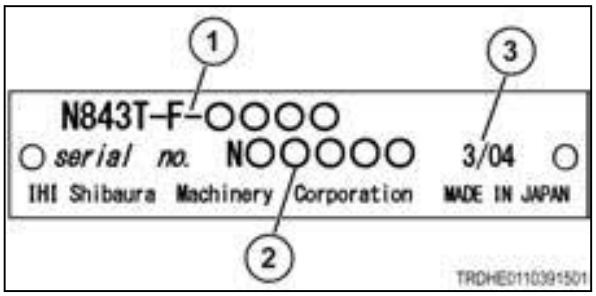

Fig. 4

1.1.6 Chassis number

The chassis number (1) is stamped in right-hand side of the front frame.

Chassis number:	

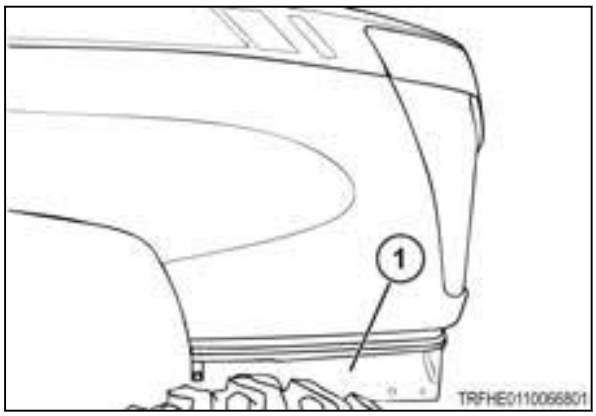

Fig. 5

1.2 Specifications

1.2.1 Engine specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Type	Water-cooled, in-line overhead valve, turbocharged diesel			
Model	N4LDI-T		N4LDI-TA	
Make	IHI SHIBAURA Machinery Corporation			
Number of cylinders	4			
Combustion system	In-direct injection system			
Compression ratio	18.0			
Injection	Inline injection pump			
Bore	84 mm (3.31 in)			
Stroke	100 mm (3.94 in)			
Displacement	2216 cm^3 (135.23 in^3)			
Rated speed	2600 rpm			
Low idle speed	975 to 1025 rpm			
High idle speed	2705 to 2755 rpm			
Maximum torque at rpm	160 Nm (118 lbf ft) @ 1600 rpm	192 Nm 141.6 lbf ft) @ 1600 rpm	160 Nm (118 lbf ft) @ 1600 rpm	192 Nm 141.6 lbf ft) @ 1600 rpm
Engine horse power (estimated gross)	36.4 kW (48.8 hp) @ 2600 rpm		42.7 kW (57.3 hp) @ 2600 rpm	
PTO horse power (estimated)	30.9 kW (41.4 hp) @ 578 rpm	29.1 kW (39.0 hp) @ 578 rpm	36.3 kW (48.7 hp) @ 578 rpm	34.2 kW (45.9 hp) @ 578 rpm
Engine cooling	Water cooling			
Fan	430 mm (16.93 in)/ 8 blades			
Air cleaner	Dual stage, dry element			
Air intake	Engine cover grille			
Cold starting aid	Glow plug			
Firing order	1-3-4-2			
Valve clearance (cold) - intake and exhaust	0.2 mm (0.008 in)			

1.2.2 Electrical specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
System voltage	12 volt			
Grounding	Negative			
Battery cold cranking amperage @ 18° C (64° F)	680 cca			
Battery JIS type	115D31R			
Battery holder	Length: 305 mm (12 in) Width: 172 mm (6.8 in) Height: 200 mm (7.9 in)			
Alternator rating	90 ampere			
Starter rating	12 volt / 2.0 kW (2.7 hp)			

1.2.3 Power take-off specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Type	Engine driven			
Control	PTO selector switch			
Clutch	PTO over-running clutch			
PTO shaft type	35 mm (1.38 in) diameter, 6 spline			
Output	Clockwise rotation			

1.2.4 Mechanical transmission specifications

	2705E mechanical	2706E mechanical
Primary transmission	Gear type	
Range transmission	2-speed range	
Gear speeds	8 gears (forward, reverse)	
Clutch	Single stage dry type	

1.2.5 Hydrostatic transmission specifications

	2705E hydrostatic	2706E hydrostatic
Primary transmission	HST, gear	
Range transmission	3-speed range	
Gear speeds		
Clutch	None	

1.2.6 Power take-off specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Type	Engine driven			
Control	PTO selector switch			
Clutch	PTO over-running clutch			
PTO shaft type	35 mm (1.38 in) diameter, 6 spline			
Output	Clockwise rotation			

1.2.7 Hydraulic specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Main hydraulic system				
Pump	Transmission mounted			
Maximum output	47.8 l/min (12.6 gal/min (US))			
Pressure	16.18 mPa (2346.8 psi)			
Steering system				
Type	Hydrostatic			
Pump	Transmission mounted			
Maximum output	26.5 l/min (7 gal/min (US)) @ 2600 rpm			
Pressure	Relief valve setting 11.77 mPa (1706.8 psi)			
Rear linkage				
Type	Three-point hitch			
Size	Category I and II			
Control	Operated by single position control lever			
Relief valve setting	15.7 mPa (2275.7 psi)			
Lift Capacity				
Measured at ball ends	1200 kg (2645 lb)			
Measured at 610 mm (24 in)	1100 kg (2425 lb)			

1.2.8 Fuel specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Type	Ultra low Sulfur fuel only			
Above 4 °C (39 °F)	No. 2-D			
Below 4 °C (39 °F)	No. 1-D			

1.2.9 Operating slope angle

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Up/down	20 degrees			
Side to side	20 degrees			

1.2.10 Capacities

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Fuel tank	53.0 L (14 gal (US))			
Engine crankcase with filter	5.8 L (1.53 gal (US))			
Cooling system	6.3 L (1.66 gal (US))			
Reserve tank	1.0 L (0.26 gal (US))			
Hydraulic system	38.0 L (10.04 gal (US))			
Front drive axle	8.5 L (2.21 gal (US))			

1.2.11 Lubrication specifications

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Lubrication fitting	Massey Ferguson M-1105 or equivalent lithium base grease No. 2			
Engine oil	Massey Ferguson Multiguard® or equivalent in the correct SAE viscosity. Oil must meet or exceed requirements API service classification CJ-4 class			
Recommended Viscosity:				
Between -10 and 40 °C (5 to 104 °F)	SAE10W-30			
Between -20 to 40 °C (-4 to 104 °F)	SAE0W-30 / SAE5W-30			
0 °C (32 °F) and above	SAE15W-40 / SAE20W-40			
Engine coolant	50/50 mixture ethylene glycol and water			
Freezing protection (original factory fill)	-34 °C (-29 °F)			
Transmission and differential housing (including hydraulic system)	AGCO Permatran 821XL			
Front axle	AGCO Permatran 821XL			

1.2.12 Tire inflation pressures

Tire type	Tire location	Tire size	Pressure
Ag	Front	9.5-16-6	207 kPa (30 psi)
	Rear	13.6-28-6	152 kPa (22 psi)
Ag	Front	9.5-16-6	207 kPa (30 psi)

Tire type	Tire location	Tire size	Pressure
	Rear	16.9-24-6	124 kPa (18 psi)
Turf	Front	27x10.50-15-4	207 kPa (30 psi)
	Rear	44x18.00-20-4	138 kPa (20 psi)
R4	Front	10-16.5NHS-6	310 kPa (45 psi)
	Rear	17.5L-24-6	138 kPa (20 psi)

1.2.13 Maximum load capacity

	2705E mechanical	2705E hydrostatic	2706E mechanical	2706E hydrostatic
Front axle capacity	1000 kg (2205 lb)			
Rear axle capacity	1000 kg (2205 lb)			
Total capacity	2000 kg (4409 lb)			

1.3 General dimensions

1.3.1 Dimensions

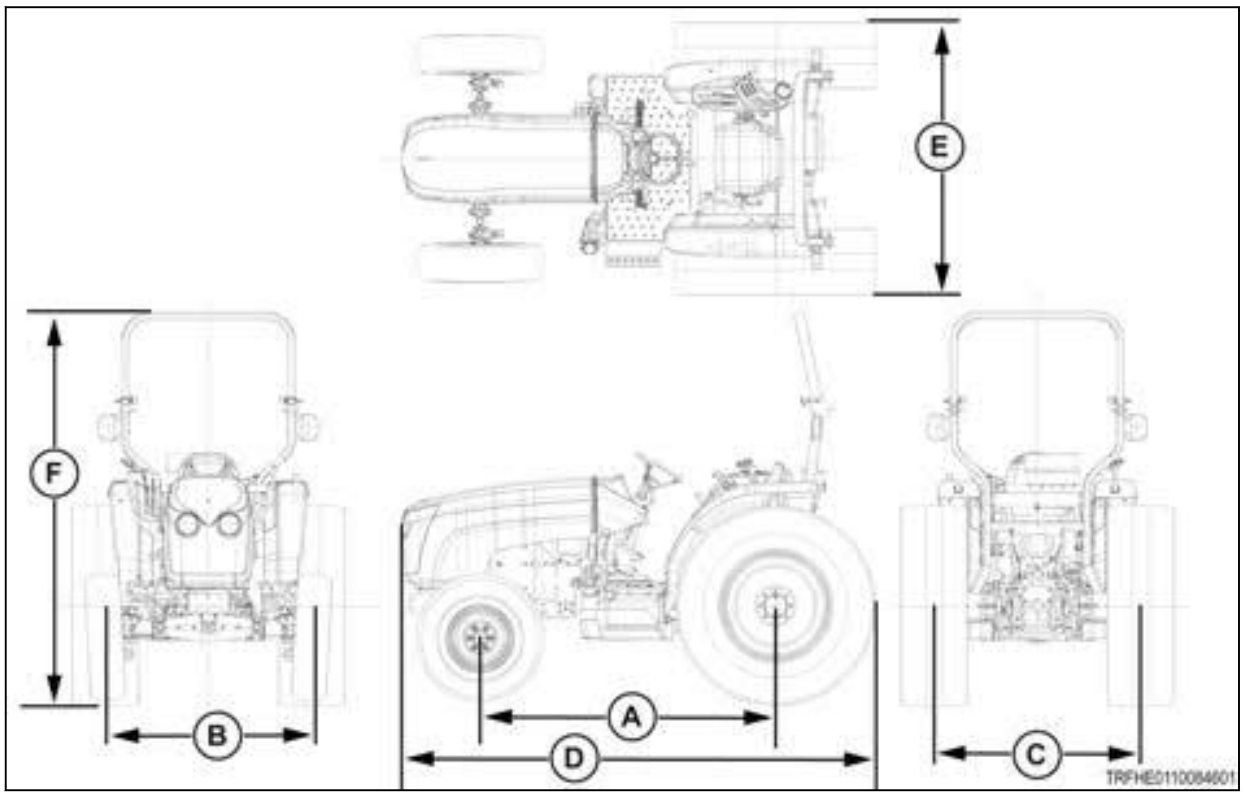

Fig. 6

		2705E	2706E
Tire		**R1-2**	
Front		**9.5-16**	
Rear		**16.9-24**	
A	Wheelbase	1980 mm (77.95 in)	
B	Front wheel tread	1340 mm (52.76 in)	
C	Rear wheel tread	1440 mm (56.69 in)	
D	Length	3370 mm (132.68 in)	
E	Width	1890 mm (74.41 in)	
F	Height	2645 mm (104.13 in)	
Turning radius (with brake)		2.5 m (98.42 in)	
Turning radius (without brake)		2.9 m (114.17 in)	
Ground clearance		380 mm (14.96 in)	
Weight			
Mechanical transmission		1740 kg (lb)	
Hydrostatic transmission		1760 kg (lb)	

1.3.2 Major components

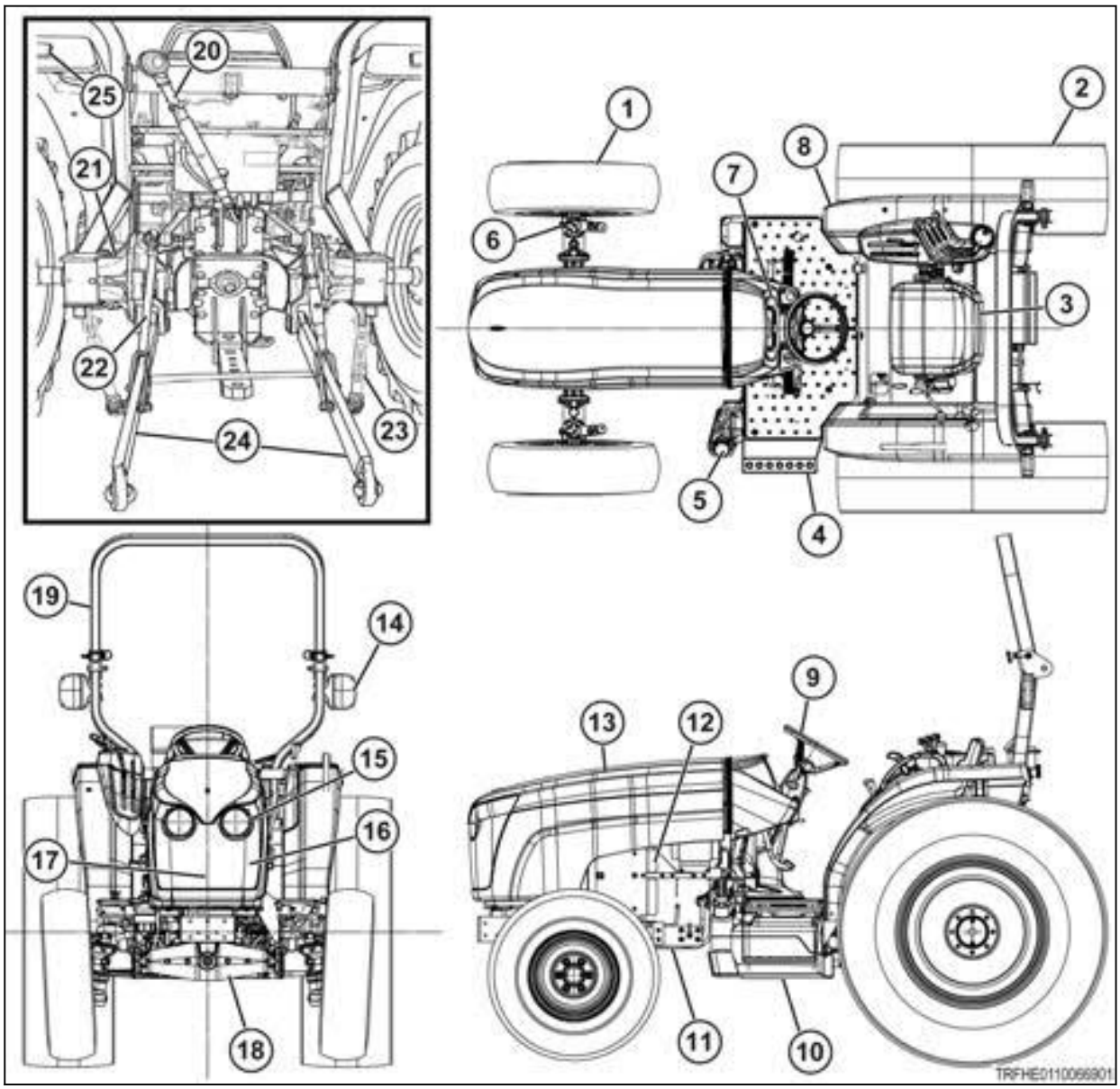

Fig. 7

(1) Front wheel
(2) Rear wheel
(3) Operator's seat
(4) Foot step
(5) Fuel tank filler
(6) Steering cylinder
(7) Instrument panel
(8) Fender
(9) Steering wheel
(10) Transmission
(11) Front wheel drive shaft
(12) Engine
(13) Engine cover
(14) Turn/hazard lamp
(15) Head lamp
(16) Front grill
(17) Battery
(18) Front axle
(19) Roll over protective structure (ROPS)
(20) Lift arm
(21) Rear axle
(22) Lift rod
(23) Stabilizer
(24) Lower links
(25) Reflector

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