LM5040, LM5060, LM5080
REPAIR MANUAL
COMPLETE CONTENTS

SECTION 00 - GENERAL INFORMATION 2

SECTION 10 - ENGINE 4

SECTION 21 - POWERSHIFT GEARBOX 4

SECTION 25 - FRONT AXLE 7

SECTION 27 - REAR AXLE 8

SECTION 33 - BRAKES 9

SECTION 35 - HYDRAULIC SYSTEM 10

SECTION 50 - CAB CLIMATE CONTROL 13

SECTION 55 - ELECTRICAL SYSTEM 14

The following pages are the collation of the contents pages from each section and chapter of the LM5040, LM5060, LM5080 Repair manual. Complete Repair part # 87755311.

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

The sections listed above are the sections utilized for the LM5040, LM5060, LM5080 Telehandlers.

PREVIEW - YOUFIXTHIS.COM

© 2008 CNH America LLC
Printed In U.S.A.

87755314 5/08
1st Printing

Download full manual at youfixthis.com

GENERAL INSTRUCTIONS

IMPORTANT NOTICE

All maintenance and repair operations listed in this manual must be performed exclusively by the Service Network of the manufacturer, complying strictly with the indications herein and using the prescribed special tools where indicated.
Any person performing service operations described in the manual and failing to abide strictly by the instructions becomes solely responsible for any consequential damage that could occur.

SHIMS

Select the shims for each adjustment, measuring them one by one with a micrometer and then adding together the values measured: Do not rely on the measurement of the entire pack, which could be wrong, or the nominal value indicated on each washer.

SEALS FOR ROTATING SHAFTS

For correct installation of the seals on rotating shafts, observe the following precautions:

- prior to installation, soak the seals for at least half an hour in the same oil they will be exposed to in operation;
- clean the shaft thoroughly and make sure that its working surface is undamaged;
- direct the lip toward the fluid; in the case of a hydrodynamic lip, the ribs or grooves must be positioned, relative to the direction of rotation of the shaft, in such a way as to propel the fluid toward the inside of the seal;
- smear the sealing lip with a film of lubricant (oil is preferable to grease) and in the case of double lip seals, pack the gap between the sealing lip and the dust lip with grease;
- insert the seal in its seat, and press home using a punch with a flat contact face; never on any account strike the seal with a hammer or mallet;
- when pressing home the seal, make certain it is inserted perpendicularly in relation to the seat and, once in place, make certain it is in contact with the shoulder, where specified;
- to prevent the lip of the seal from being damaged by the shaft, interpose suitable protection media during the installation of the two parts.

O-RINGS

Lubricate O-rings before inserting them in the relevant seats to prevent them from twisting and rolling in the course of installation, as this would adversely affect their sealing action.

SEALANTS

Mating surfaces marked X must be smeared with a sealing compound recommended by the manufacturer, or a suitable equivalent.
Before applying the compound, prepare the surfaces in the following manner:

- remove any encrustations with a metal brush;
- degrease the surfaces thoroughly using the degreasing agent recommended by the manufacturer, or a suitable equivalent.

BEARINGS

When installing bearings, the rings should be:

- heated to 176-194 °F (80-90 °C) before shrinking (inner) onto their shafts;
- cooled before driving (outer) into the seat.

ROLL PINS

When installing roll pins, make sure that the cut is facing in the direction of the mechanical force bearing on the pin.
Spiral roll pins, on the other hand, can be fitted with any orientation.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SPECIFICATIONS

GENERAL

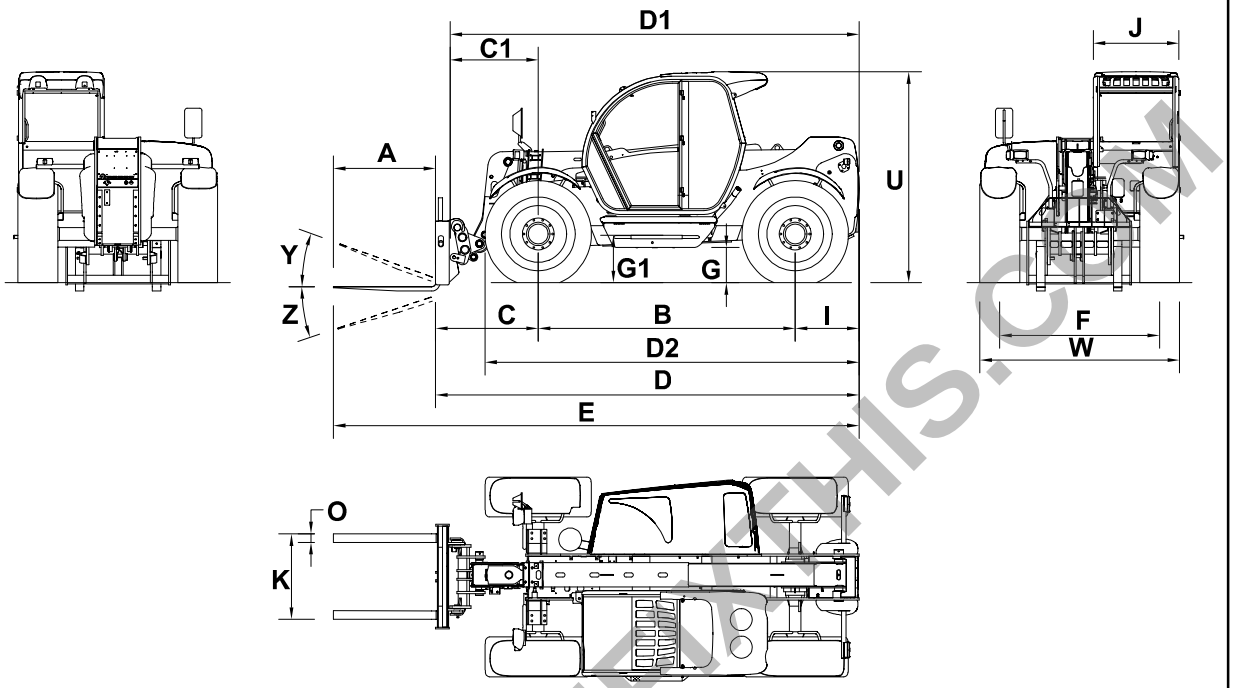
NOTE: *"The manufacturer" pursues a policy of continual improvement and therefore reserves the right to modify technical and design data at any moment, without notice, and without any obligation to modify machines manufactured previously.*

All data given in this manual will be subject to production changes. Dimensions and weights are approximate and the illustrations do not necessarily show the machines in normal conditions. To obtain specific information on a given machine, consult an authorized dealer.

Model	**LM5040**	**LM5060**	**LM5080**
	non-stab.	non-stab.	non-stab.
Engine	Supercharged 120 hp (88 kW)	Supercharged 120 hp (88 kW)	Supercharged 120 hp (88 kW)
Max. lifting height m (ft)	6.21 (20.4)	7.13 (23.4)	9.74 (32)
Max. load capacity kg (lbs) at 500 mm (19.7 in) from the fork ledge	3500 (7716)	4000 (8800)	3300 (7275)
Capacity at max. height kg (lbs)	3500 (7716)	2500 (5500)	2000 (4409)
Extension at max. height m (ft)	0.516 (1.7)	0.939 (3.1)	2.166 (7.1)
Max. longitudinal extension m (ft)	3.189 (10.5)	4.191 (13.7)	7.053 (23)
Capacity at max. extension kg (lbs)	2000 (4409)	1350 (2976)	800 (1764)
Weight kg (lbs)	7310 (16116)	7510 (16557)	8400 (18518)
Length m (ft)	6.157 (20.2)	6.322 (20.7)	6.452 (21.2)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



7

Model		LM5040	LM5060	LM5080
A	mm (in.)	1200 (47.2)	1200 (47.2)	1200 (47.2)
B	mm (in.)	3010 (118.5)	3010 (118.5)	3010 (118.5)
C	mm (in.)	1202 (47.3)	1365 (53.7)	1497 (59)
C1	mm (in.)	1031 (40.6)	1196 (47.1)	1326 (52.2)
D	mm (in.)	4960 (195.2)	5123 (201.7)	5255 (207)
D1	mm (in.)	4789 (188.5)	4954 (195)	5084 (200.2)
D2	mm (in.)	4382 (172.5)	4382 (172.5)	4382 (172.5)
E	mm (in.)	6157 (242.4)	6322 (248.9)	6452 (254)
F	mm (in.)	1873 (73.7)	1873 (73.7)	1873 (73.7)
G	mm (in.)	420 (16.5)	420 (16.5)	420 (16.5)
G1	mm (in.)	550 (21.6)	550 (21.6)	550 (21.6)
I	mm (in.)	748 (29.4)	748 (29.4)	748 (29.4)
J	mm (in.)	1003 (39.4)	1003 (39.4)	1003 (39.4)
K	mm (in.)	1185 (46.6)	1185 (46.6)	1185 (46.6)
O	mm (in.)	100x50 (4x2)	100x50 (4x2)	100x50 (4x2)
U	mm (in.)	2471 (97.3)	2471 (97.3)	2471 (97.3)
W	mm (in.)	2340 (92.1)	2340 (92.1)	2340 (92.1)
Y		26°	26°	26°
Z		132°	132°	132°

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TIGHTENING TORQUES

PART				TORQUE	
				Nm	(ft-lbs)
Bolt, cylinder head	1st stage	M12x1.75x70 bolts		50 ±5	37 ± 4
		M12x1.75x140 bolts		40 ±5	30 ± 4
		M12x1.75x180 bolts	♦	70 ±5	52 ± 4
	2nd stage			90°	
	3rd stage	(140 and 180 length bolts only)		90°	
Bolt, crankshaft bearing cap	1st stage			50 ±6	37 ± 4
	2nd stage		♦	80 ±6	59 ± 4
	3rd stage			90°	
Bolt, big end cap	1st stage			50 ±6	37 ± 4
	2nd stage		♦	80 ±6	59 ± 4
	3rd stage			90°	
Bolt, engine flywheel	pretighten			30 ±5	22 ± 4
	angle		♦	60° ±5°	
Injector mount				60 ±5 (44 ± 4)	
Fuel filter				snug + 3/4 turn	
Bolt, injection pump gear cover				25 ±5	18 ± 4
Bolt, timing case and cover				25 ±5	18 ± 4
Bolt, thermostart				25 ±5	18 ± 4
Bolt, intake manifold				25 ±5	18 ± 4
Bolt, fuel pump				25 ±5	18 ± 4
Bolt, exhaust manifold				53 ±5	39 ± 4
Nut, rocker cover				25 ±5	18 ± 4
Bolt, rocker mounting				48 ±8	35 ± 6
Nut, rocker adjustment				25 ±5	18 ± 4
Bolt, crankshaft pulley	pretighten			50 ±5	37 ± 4
	angle			90°	
Bolt, camshaft thrust plate				25 ±5	18 ± 4
Bolt, fan mounting				25 ±5	18 ± 4
Bolt, injection pump				12 ±5	9 ± 4
Bolt, fan pulley				45 ±5	33 ± 4
Bolt, turbocharger Heat exchanger	pretighten			25 ±5	18 ± 4
Bolt, oil pump and front cover				25 ±5	18 ± 4
Bolt, starter motor				55 ±5	41 ± 4
Bolt, alternator				45 ±5	33 ± 4
Bolt, water pump				25 ±5	18 ± 4
Fuel filter				snug + 3/4 turn	
Bolt, belt tensioner				45 ±5	33 ± 4

♦ Lubrication with oil.

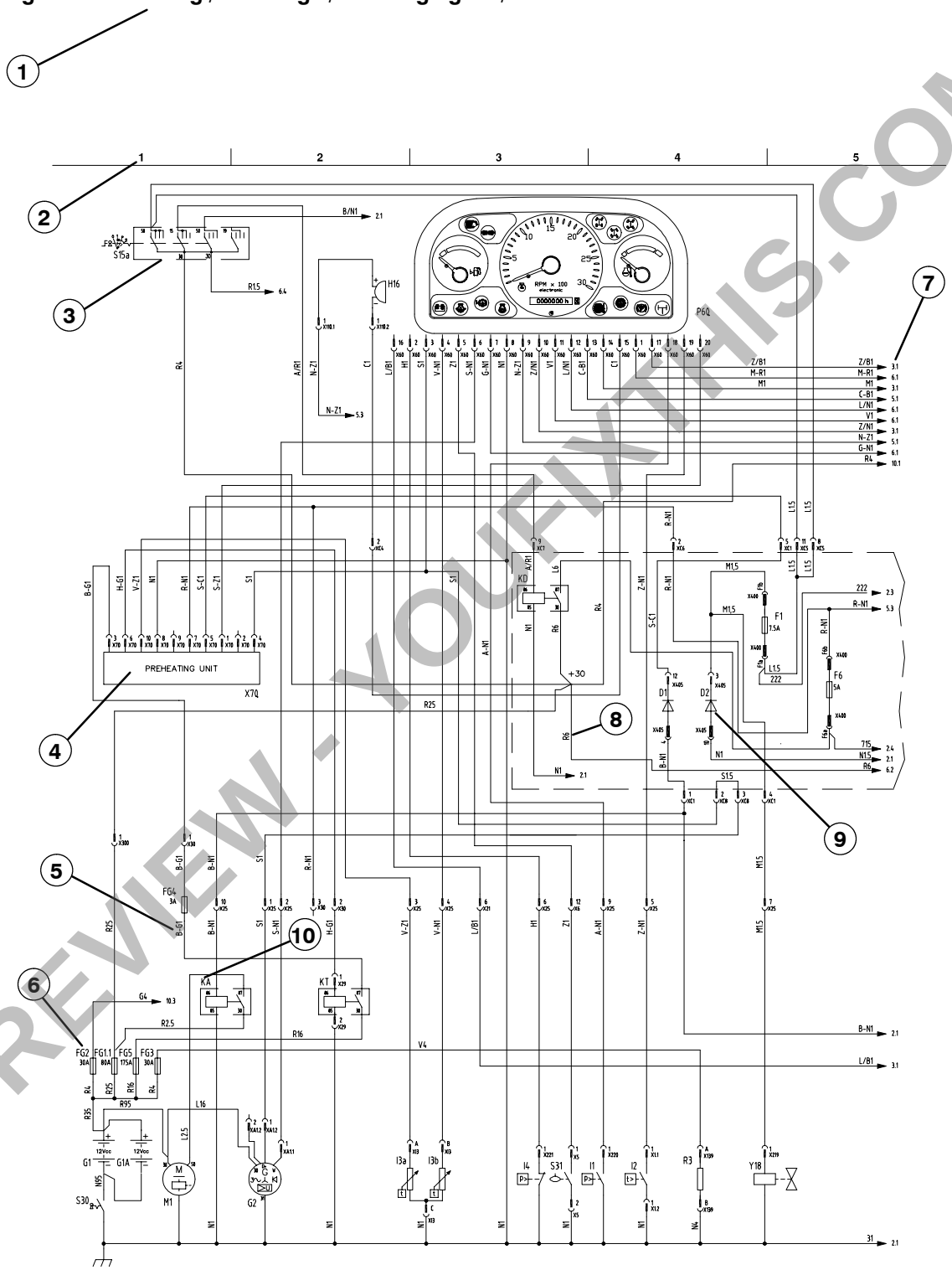
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

CIRCUIT DIAGRAMS

DIAGRAM 1 - STARTING/RECHARGE/WARNING LIGHTS/INDICATORS

Diagram 1 – Starting / Recharge / Warning lights / Indicators

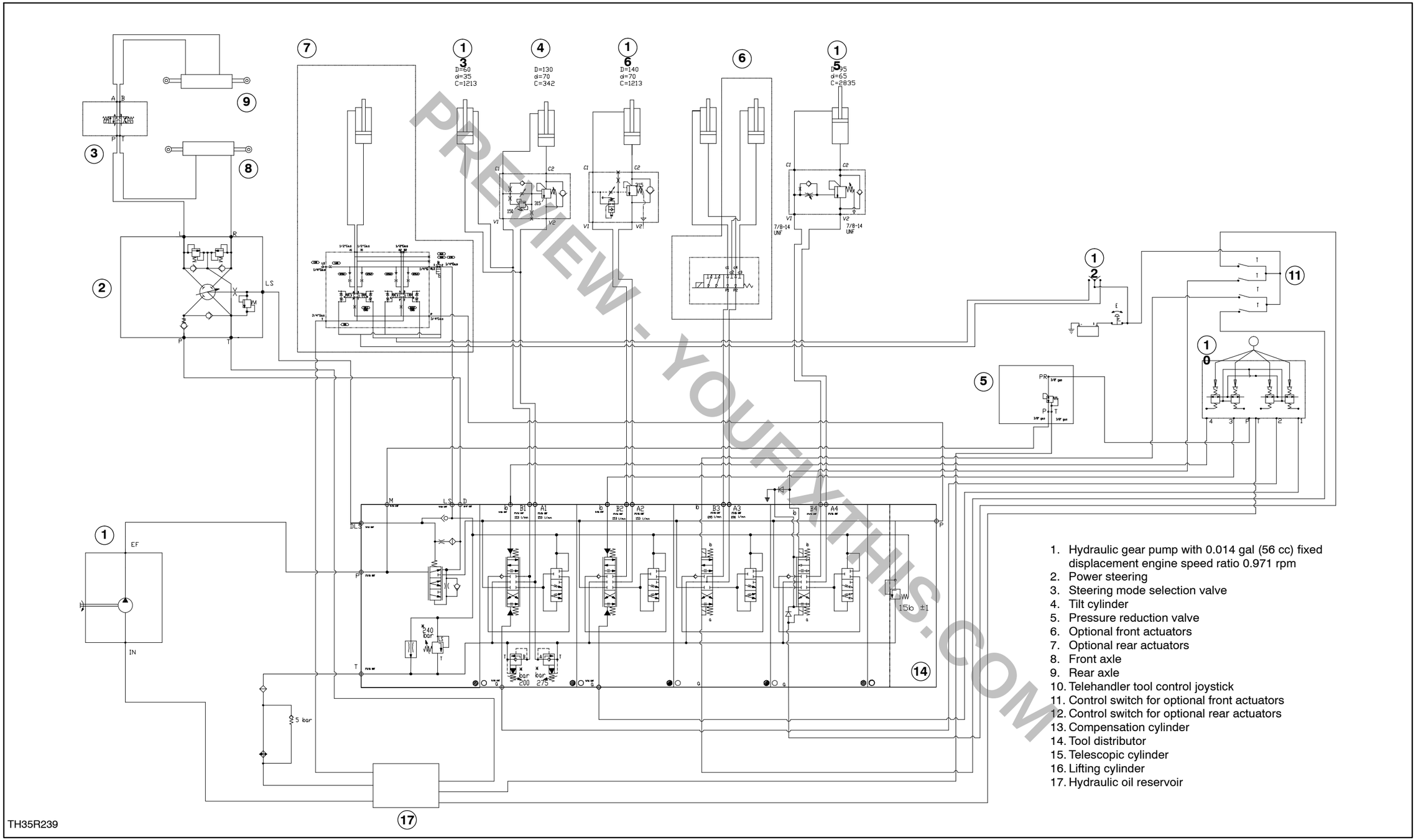


TH55R091

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

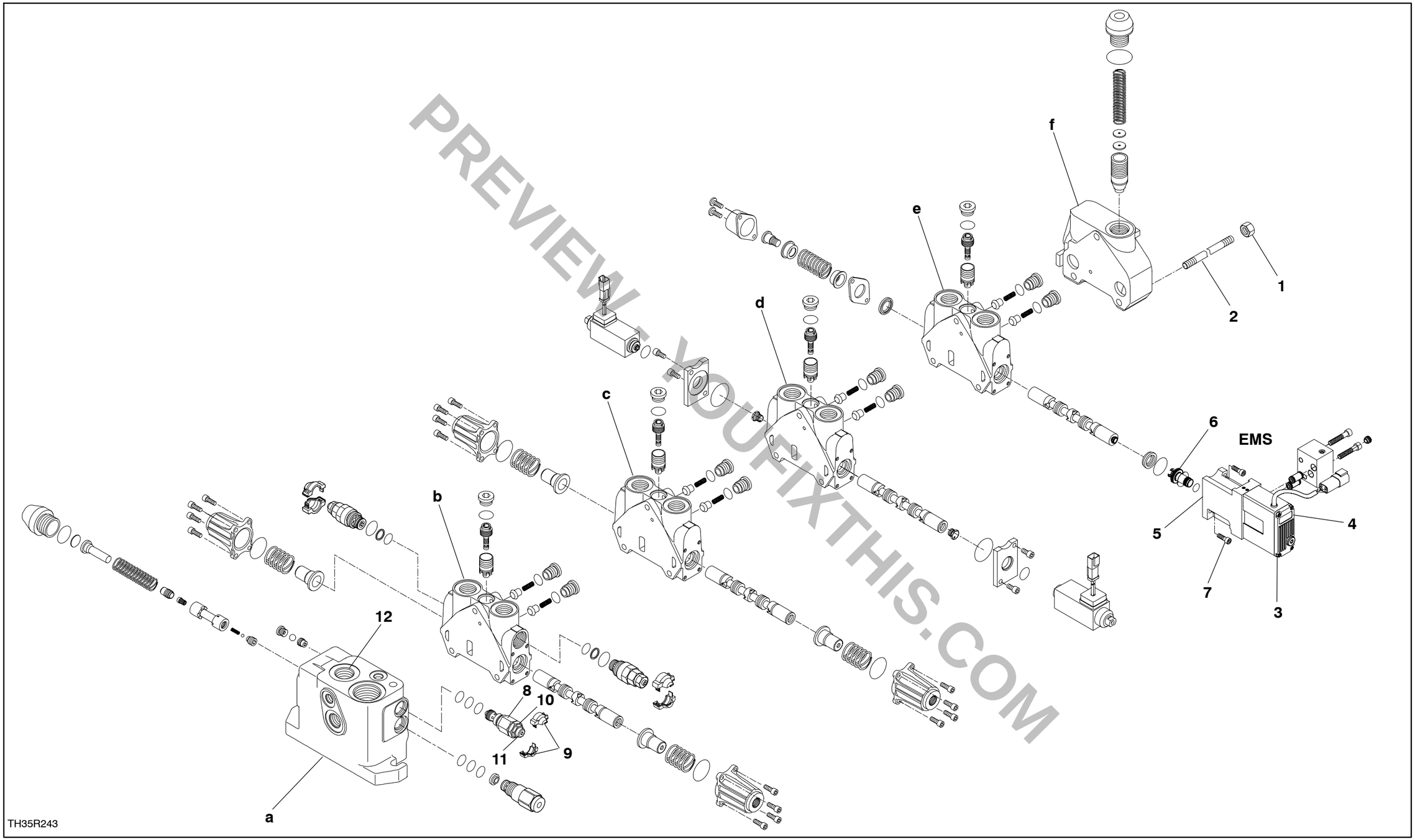
Telescopic Boom Hydraulic Circuit 6-7 m (20-23 ft) for On-Off Distributor and Fixed Displacement Pump (Cab Models)



1. Hydraulic gear pump with 0.014 gal (56 cc) fixed displacement engine speed ratio 0.971 rpm
2. Power steering
3. Steering mode selection valve
4. Tilt cylinder
5. Pressure reduction valve
6. Optional front actuators
7. Optional rear actuators
8. Front axle
9. Rear axle
10. Telehandler tool control joystick
11. Control switch for optional front actuators
12. Control switch for optional rear actuators
13. Compensation cylinder
14. Tool distributor
15. Telescopic cylinder
16. Lifting cylinder
17. Hydraulic oil reservoir

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



TH35R243

PREVIEW FROM YOUFIXTHIS.COM

Download full manual at youfixthis.com

OVERHAUL

ENGINE AND TRANSMISSION

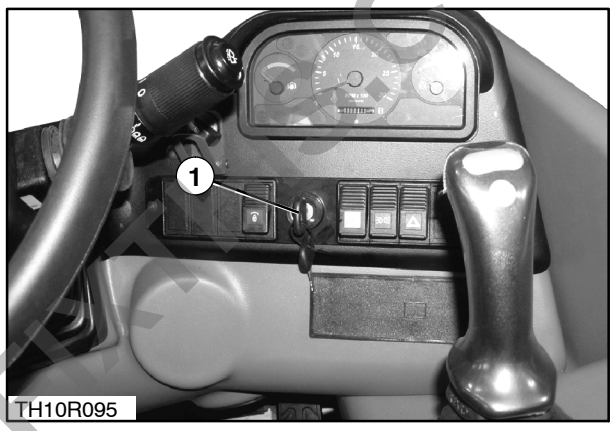
Pre-Removal

- Position the machine on a flat and compact surface.
- Apply the parking brake and chock the wheels with wedges.
- Use only the recommended tools.
- Do not insert hands or extraneous components between parts.
- Disconnect the battery before proceeding.
- Remove the engine hood and cowling.
- Disconnect the propeller shafts.

⚠ WARNING ⚠

Do not allow unauthorized persons to repair or maintain this machine. Carefully read the Operator's Manual prior to starting, using, maintaining, refueling or repairing the machine.

Turn the **STARTER SWITCH** (1) to the **OFF** position and display the "**DO NOT START**" warning card.



7

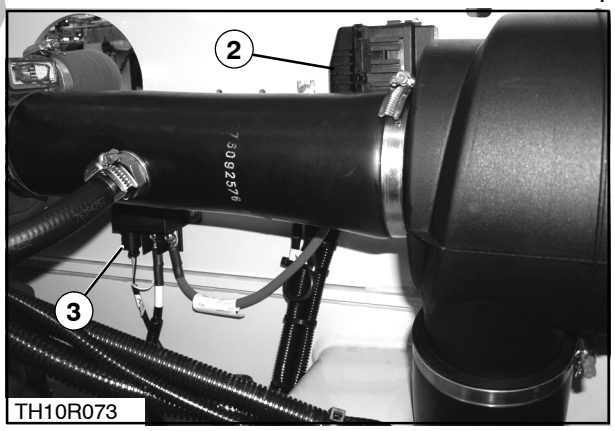
⚠ IMPORTANT ⚠

From this point onwards, mark all electrical connections and hydraulic lines to facilitate the process of RESTORING CONNECTIONS DURING INSTALLATION.

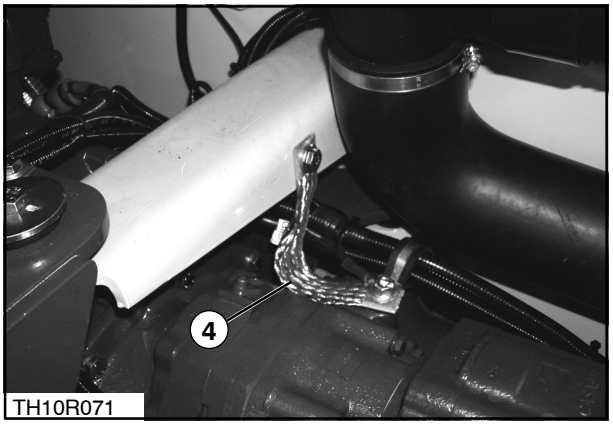
Removal of electrical connectors

1. Remove the fuse box (2) and cold starting device (3) from inside the engine compartment.

2. Detach the ground strap (4).



8



9

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TROUBLESHOOTING

Main operating problems that can affect the engine:

1 – Engine fails to start.
2 – Engine overheats.
3 – Engine lacks power and operation is irregular.
4 – Engine produces black or dark gray smoke.
5 – Engine produces gray (whitish) smoke.
6 – Engine produces blue smoke.
7 – Engine knocks abnormally.
8 – Engine stalls.
9 – Engine overspeeds.
10 – Oil pressure too high or too low.
11 – Excessive fuel consumption.
12 – The engine fails to stop.

1 ENGINE FAILS TO START

Battery terminal connections inefficient – NO → Clean, check and tighten terminal nuts, or replace.

YES ↓

Batteries efficient – NO → Carry out checks described in Repair Manual – “Electrical system”.

YES ↓

Starter motor efficient – NO → Carry out checks described in Repair Manual – “Electrical system”.

YES ↓

Thermostart efficient – NO → Replace.

YES ↓

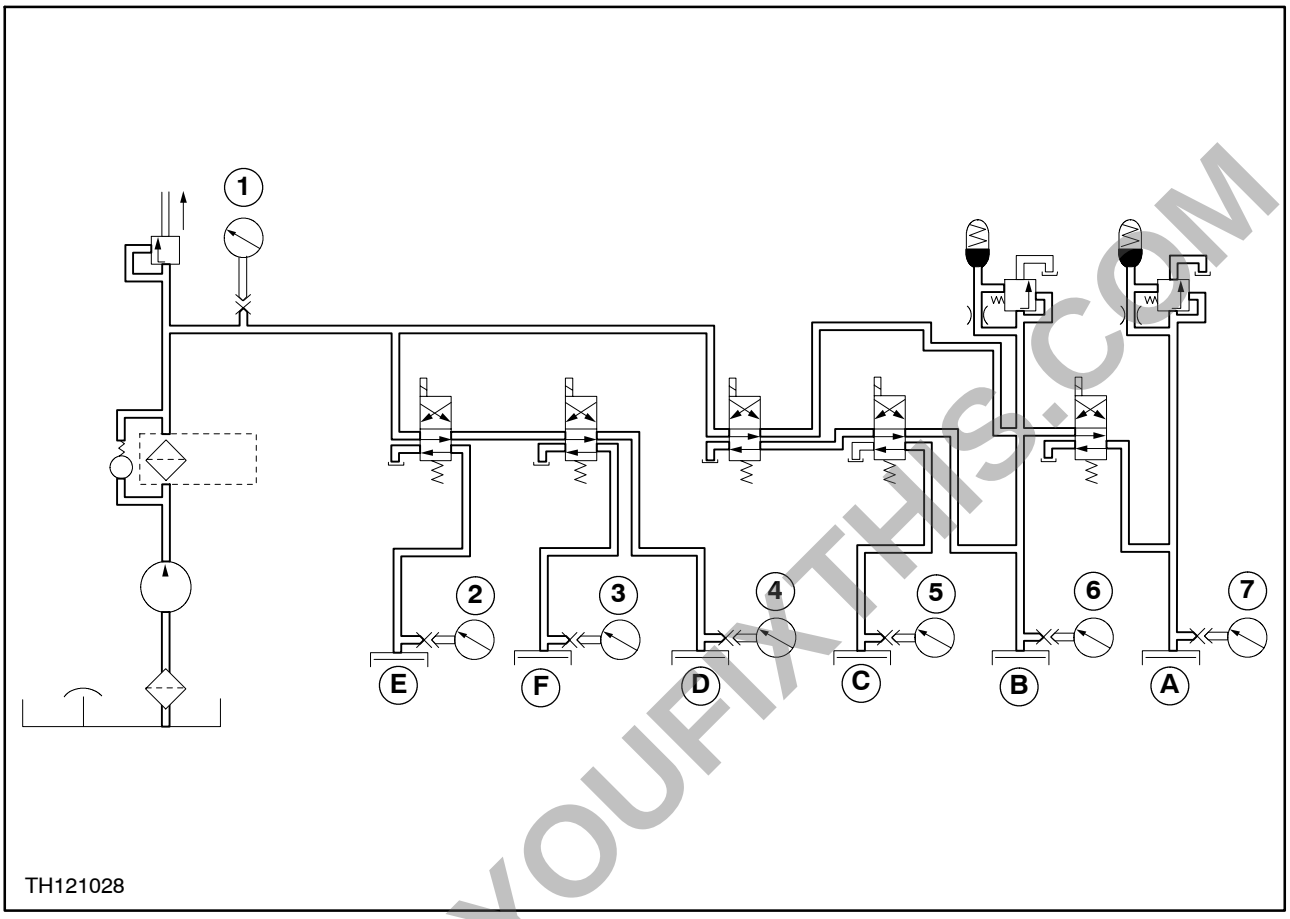
Injection pump timing correct – NO → Check correct timing as described in the relevant chapter.

(cont)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Pressure Tests on Clutch and High Pressure Circuit



34

Port 1 System pressure

Engine set to idle

Minimum pressure 13 bar (188.5 psi)

Requisite oil pressure 16–19 bar (232–275.5 psi)

Port 2 Clutch E

Engine set to idle

Pressure range, clutch activated 16–19 bar (232–275.5 psi)

Clutch released 0 – 0.2 bar (0 – 3 psi)

Port 3 Clutch F

Engine set to idle

Pressure range, clutch activated 16–19 bar (232–275.5 psi)

Clutch released 0 – 0.2 bar (0 – 3 psi)

Port 4 Clutch D

Engine set to idle

Pressure range, clutch activated 16–19 bar (232–275.5 psi)

Clutch released 0 – 0.2 bar (0 – 3 psi)

Port 5 Clutch C

Engine set to idle

Pressure range, clutch activated 16–19 bar (232–275.5 psi)

Clutch released 0 – 0.2 bar (0 – 3 psi)

Port 6 Clutch B

Engine set to idle

Pressure range, clutch activated 16–19 bar (232–275.5 psi)

Clutch released 0 – 0.2 bar (0 – 3 psi)

Port 7 Clutch A

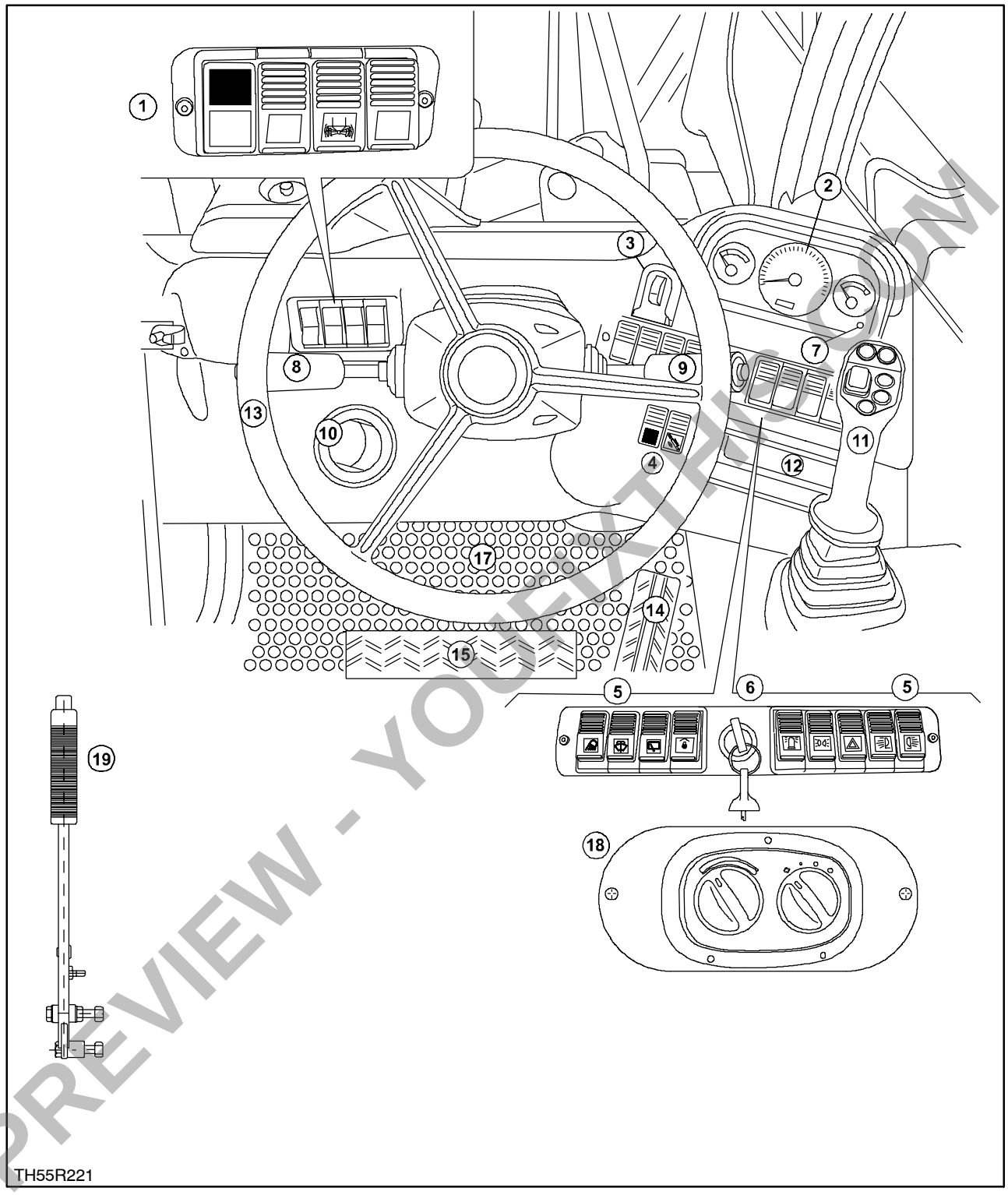
Engine set to idle

Pressure range, clutch activated 16–19 bar (232–275.5 psi)

Clutch released 0 – 0.2 bar (0 – 3 psi)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



TH55R221

16

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SECTION 10 - ENGINE

BOOK 1 - 87755312

Chapter 1 - Engine

CONTENTS

Section	Description	Page
	F4 GE 9484 Engine	2
	Engine Specifications	3
	Sectional Views	6
	Overhaul	11
	Engine and Transmission	11
	Pre-removal	11
	Removal	20
	Installation	21
	Troubleshooting	23
	Tightening Torques	36

SECTION 21 - POWERSHIFT GEARBOX

BOOK 1 - 87755312

Chapter 1 - Powershift Gearbox

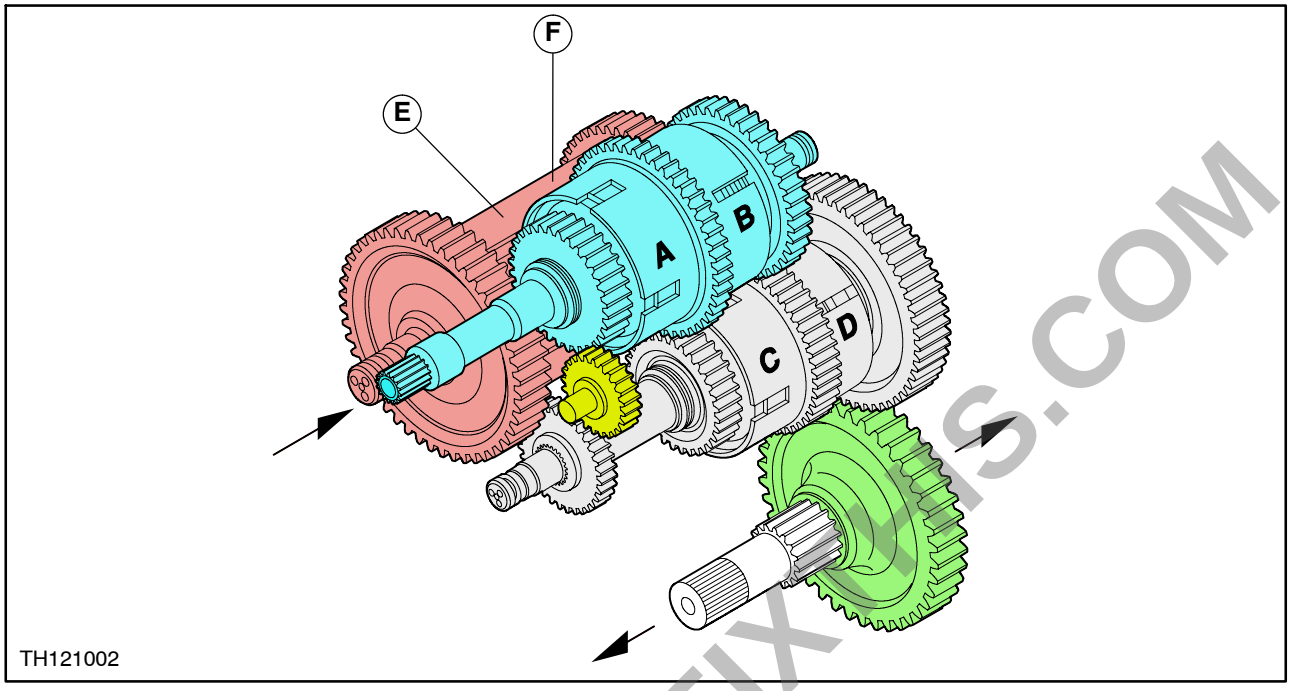
CONTENTS

Section	Description	Page
	Description of Operation	3
	Powershift Gearbox 4 x 3	3
	Gearshift Control	3
	Driving with the Powershift Gearbox	3
	Disconnection of Gearbox	5
	Transmission Power Flows	6
	Layout of Gears and Clutches	7
	Drop Box Assembly	8
	Operation of Gearbox	9
	Converter, Pump Drive Section and Pressure Control Valve	10

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Layout of Gears and Clutches



7

Reverse (A)/Forward (B)

4^{th} speed (C)/3^{rd} speed (D)

1^{st} speed (E)/2^{nd} speed (F)

Output shaft with gear

Idler gear

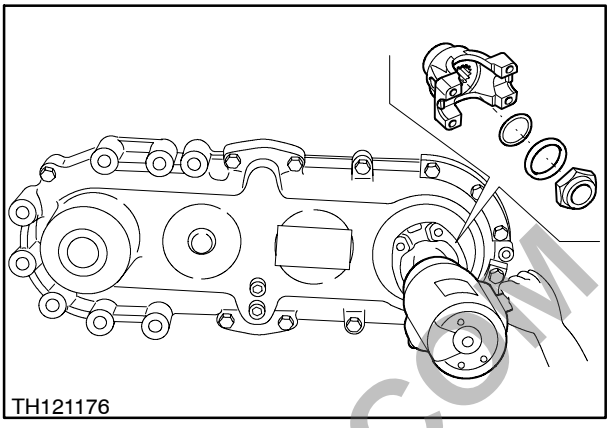
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

DROP BOX

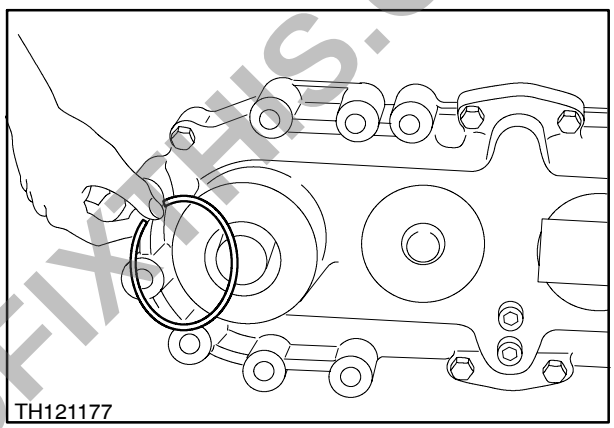
Disassembly

1. Use an impact driver to free the retaining nut, then remove the washer, O-ring and rear output flange.



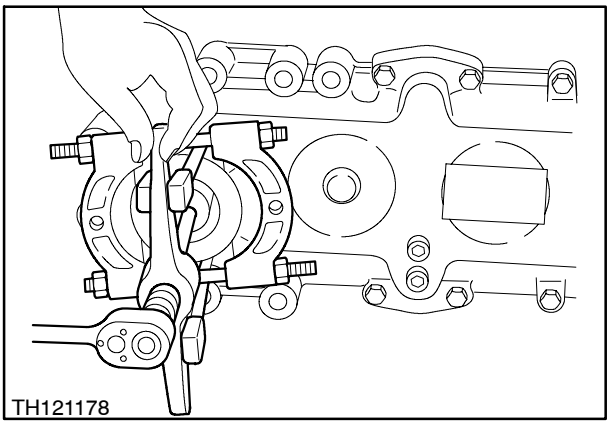
206

2. Remove the outer O-ring.



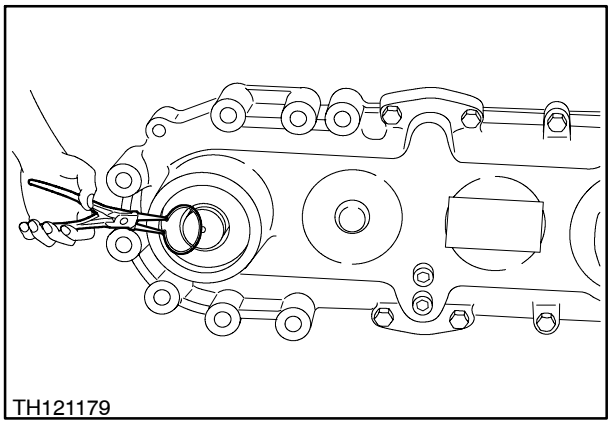
207

3. Use a puller to remove the outer sleeve and inner O-ring.



208

4. Remove the coupling sleeve snap ring.



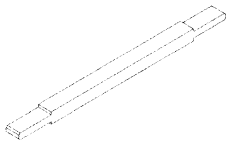
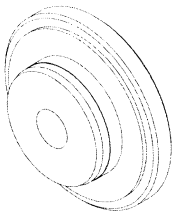
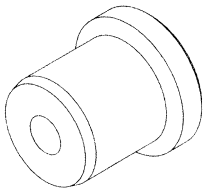
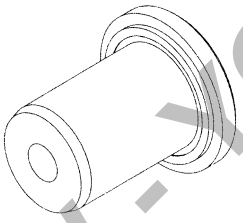
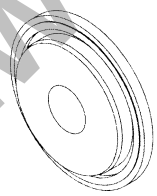
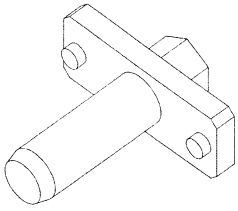
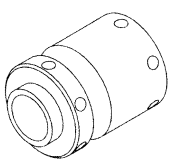
209

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SPECIAL TOOLS

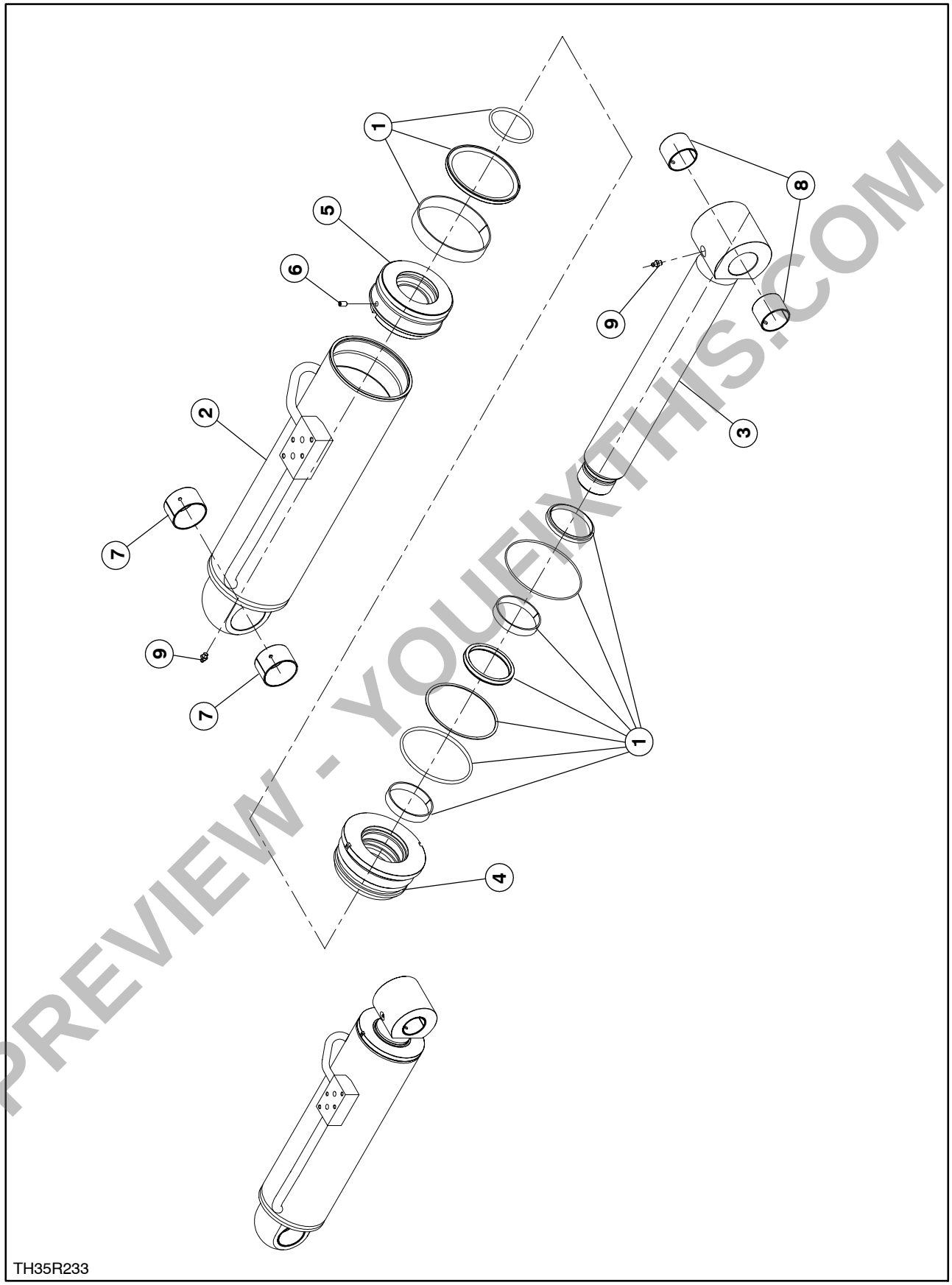
FRONT AND REAR AXLES

Q.TY	NUMBER	SKETCH	DESCRIPTION	HOW TO USE/MODEL
2	**380000581**		Device for inspection of axle brake clutch disk wear **COMPULSORY**	To check the brake disks for wear ALL
2	**380000582**		Tool for installation of axle housing universal joint seal	To install a new seal to be used with (380000258)
2	**380000583**		Tool for installation of swing axle housing universal joint bushing **RECOMMENDED**	To install a new bushing to be used with (380000258) ALL
2	**380000584**		Tool for installation of axle housing u-joint shaft spindle seal **COMPULSORY**	To install a new seal to be used with (380000258) ALL
2	**380000585**		Tool for installation of axle wheel hub seal **COMPULSORY**	To install a new seal to be used with (380000258) ALL
2	**380000586**		Wrench for axle differential ring gear **COMPULSORY**	To adjust the play of the crown wheel and pinion ALL
2	**380000587**		Retainer for axle differential planetary gears **COMPULSORY**	To hold the planetary gears for removal of pins ALL

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

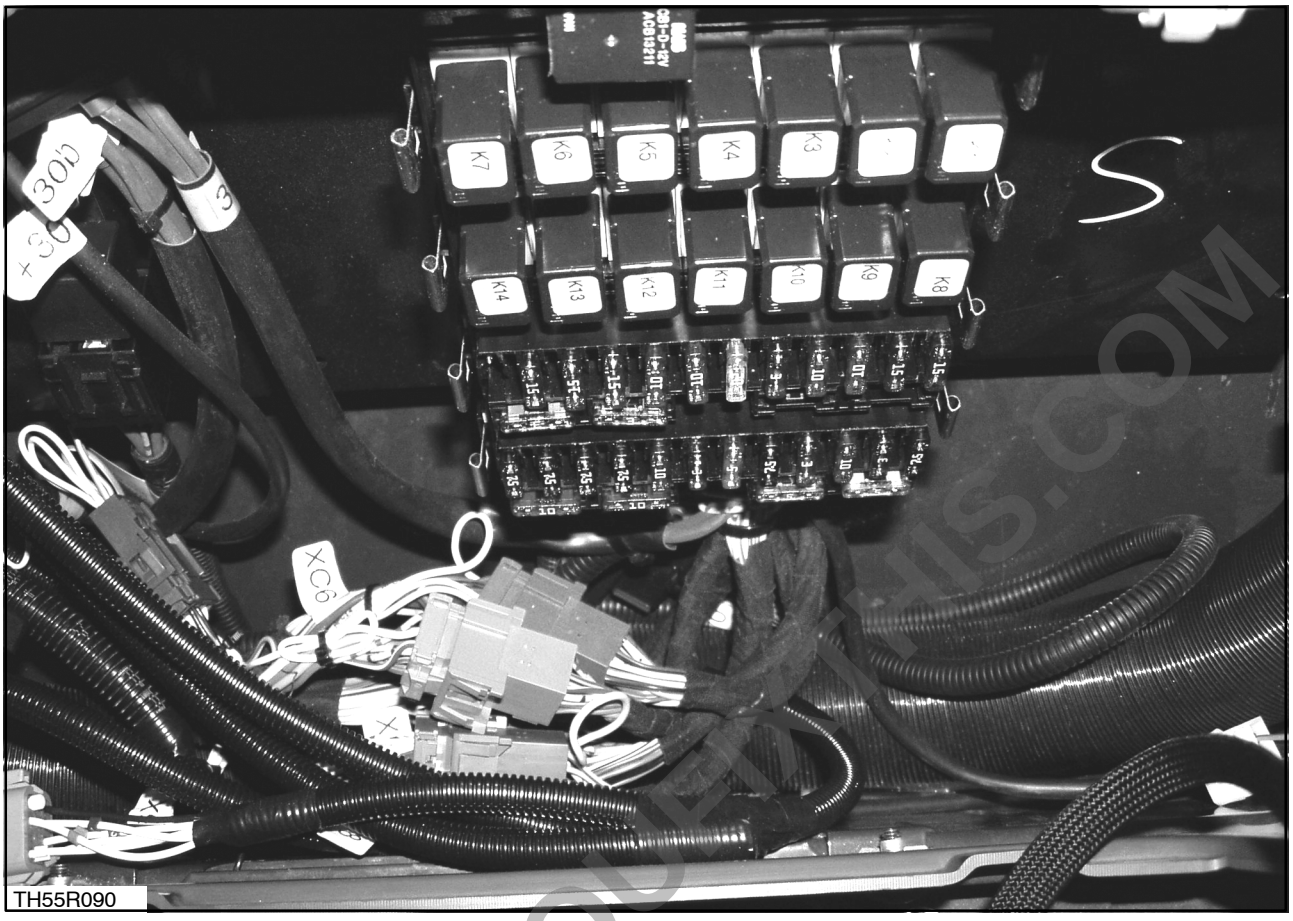
TILT CYLINDER (6, 7, AND 10 M [20, 23, AND 33 FT] VERSIONS)



TH35R233

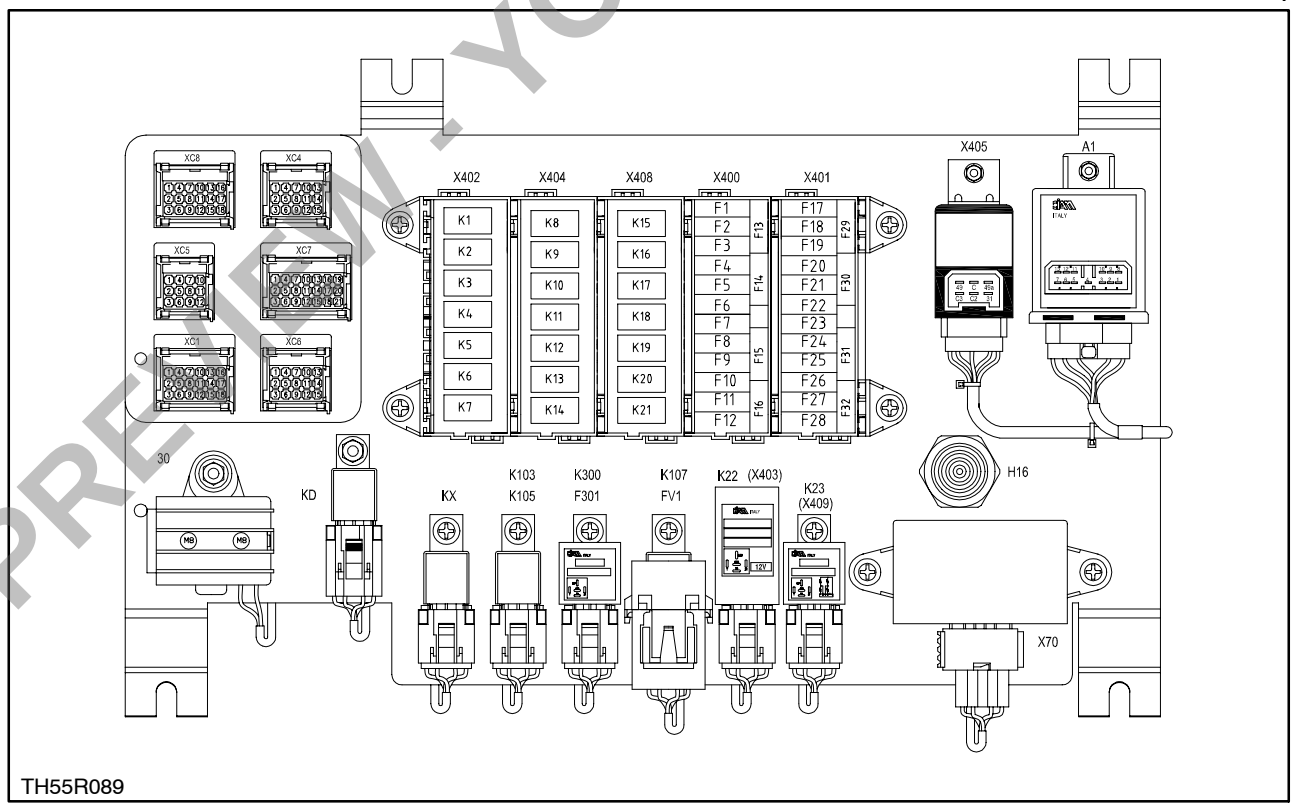
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com



TH55R090

7



TH55R089

8

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 18 of 498 pages

The full manual includes:

- All 498 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

New Holland LM5040, LM5060, LM5080 Repair Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual