



Parts Manual

Models ***TH414,*** ***TH514,*** ***TH417***

S/N TBZ00100 & After
S/N TBW00100 & After
S/N TBT00100 & After

31200488

Revised
July 2, 2012

TABLE OF CONTENTS

FIGURE NO.	TITLE	PAGE NO.
SECTION 1 –		
FRAME & ATTACHING PARTS		1-1
1-1	Frame Shrouding & Trim	1-2
1-2	Frame Shrouding & Trim - Engine Pod Installation	1-6
1-3	Axle & Wheel Mounting	1-10
1-4	Outrigger Installation	1-12
1-5	Hitches	1-14
SECTION 2 –		
BOOM		2-1
2-1	Boom Assembly Components	2-2
2-2	Boom Chain Assembly	2-12
2-3	First Boom Section Assembly	2-16
2-4	Second Boom Section Assembly	2-22
2-5	Third Boom Section Assembly	2-28
2-6	Fourth Boom Section Assembly	2-34
2-7	Quick Coupler & Quick Disconnect Installation	2-36
2-8	Boom Prop Installation	2-40
SECTION 3 –		
ATTACHMENTS		3-1
3-1	Carriage Assembly	3-2
3-2	Forks	3-6
3-3	Side Shift Carriage	3-8
3-4	Rotate/Side Tilt Carriage	3-10
3-5	General Purpose Bucket	3-12
3-6	Multi-Purpose Bucket	3-14
3-7	Material Handling Bucket	3-18
3-8	Grapple Bucket	3-20
3-9	Truss Boom	3-22
3-10	Lifting Hook	3-24
3-11	Platform Installations	3-26
3-12	THP18s Platform Installation	3-28
3-13	THP45s Platform Installation	3-34
3-14	Console Box Assembly	3-40
3-15	50 In & 72 In Side Tilt Carriage Assembly	3-44
3-16	50 In & 72 In Carriage Assembly	3-46
SECTION 4 –		
ENGINE & ATTACHING PARTS		4-1
4-1	Engine & Transmission Installation	4-2
4-2	CAT Engine	4-6
4-3	Fuel Line Installation	4-10
4-4	Fuel Tank Installation	4-12

TABLE OF CONTENTS

FIGURE NO.	TITLE	PAGE NO.
4-5	Radiator Installation	4-14
4-6	Air Cleaner Installation	4-18
4-7	Muffler Installation	4-20
4-8	Block Heater Installation	4-22
SECTION 5 –		
	DRIVE TRAIN	5-1
5-1	Front Axle Assembly	5-2
5-2	Front Axle Housing	5-4
5-3	Front Axle - Swivel Housing & Steering Cylinder	5-6
5-4	Front Axle - Bevel Gear Set	5-8
5-5	Front Axle - Differential	5-10
5-6	Front Axle - Double U-Joint	5-12
5-7	Front Axle - Brakes	5-14
5-8	Front Axle - Wheel Hub	5-16
5-9	Front Axle - Final Reduction	5-18
5-10	Front Axle - Brake Caliper	5-20
5-11	Rear Axle Assembly	5-22
5-12	Rear Axle Housing	5-24
5-13	Rear Axle - Swivel Housing & Steering Cylinder	5-26
5-14	Rear Axle - Bevel Gear Set	5-28
5-15	Rear Axle - Differential	5-30
5-16	Rear Axle - Double U-Joint	5-32
5-17	Rear Axle - Wheel Hub	5-34
5-18	Rear Axle - Final Reduction	5-36
5-19	Drive Shaft Installation	5-38
5-20	Remote Grease System Installation	5-40
5-21	Tire & Wheel Installation	5-44
SECTION 6 –		
	CAB	6-1
6-1	Cab Installation	6-2
6-2	Cab Assembly	6-6
6-3	Open Cab Interior Installation	6-12
6-4	Enclosed Cab Interior Installation	6-14
6-5	Cab Door & Window Installation	6-16
6-6	Wiper System	6-22
6-7	Cab Covers & Cab Guards	6-24
6-8	Cloth Mechanical Suspension Seat	6-26
6-9	Vinyl Mechanical Suspension Seat	6-28
6-10	Cloth Pneumatic Suspension Seat	6-30
6-11	Cab Heater/AC Components	6-32
6-12	Engine Heater/AC Components	6-36
6-13	Heater/AC Unit & Heater/AC Unit Guard Shield	6-40

TABLE OF CONTENTS

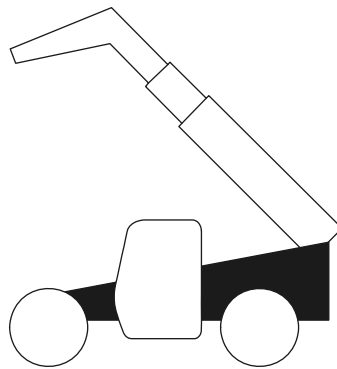
FIGURE NO.	TITLE	PAGE NO.
SECTION 7 –		
CONTROLS		7-1
7-1	Joystick	7-2
7-2	Steering Column	7-4
7-3	Accelerator Pedal	7-6
7-4	Mechanical Handbrake	7-8
7-5	Brake Installation	7-10
SECTION 8 –		
HYDRAULIC CIRCUITS		8-1
8-1	Supply Circuit	8-2
8-2	Dump Circuit	8-4
8-3	Steer Select	8-8
8-4	Service Brake	8-10
8-5	Lift Cylinder	8-12
8-6	Extend/Retract	8-14
8-7	Tilt & Tilt Compensation	8-20
8-8	Auxiliary Hydraulics	8-30
8-9	Frame Level & Outrigger	8-36
8-10	Platform Hydraulics	8-38
SECTION 9 –		
HYDRAULIC COMPONENTS		9-1
9-1	Lift Cylinder	9-2
9-2	Extend/Retract Cylinder	9-6
9-3	Tilt Cylinder	9-14
9-4	Compensation Cylinder	9-18
9-5	Frame Level Cylinder	9-26
9-6	Outrigger Cylinder	9-28
9-7	Quick Coupler Cylinder	9-30
9-8	Platform Rotate Cylinder	9-34
9-9	Main Control Valve	9-36
9-10	Piston Pump	9-40
9-11	Steering Select Valve	9-42
9-12	Hydraulic Tank Installation	9-44
9-13	Diverter Valve	9-46
9-14	Outrigger & Frame Level Valve	9-48
9-15	Double Pilot Check Valve	9-50
SECTION 10 –		
ELECTRICAL		10-1
10-1	Engine & Transmission Electronic Installation	10-2
10-2	Cab Electronic Installation	10-6
10-3	Cab Switches	10-10

TABLE OF CONTENTS

FIGURE NO.	TITLE	PAGE NO.
10-4	Boom & Frame Electrical Installation	10-12
10-5	Worklight & License Plate Light Installations	10-18
10-6	Driving Light Installation	10-20
10-7	Frame Electronic Installation	10-22
10-8	Engine Harness	10-26
10-9	Cab Floor Harness	10-30
10-10	Cab Roof Harness	10-40
10-11	Transmission Harness	10-44
10-12	Front Frame Harness	10-46
10-13	Rear Frame Harness	10-48
10-14	Boom Worklight Harness	10-52
10-15	Auxiliary Hydraulic Harness	10-54
10-16	LMIS Installation	10-56
10-17	LMIS Beacon Installation	10-60
10-18	LMIS Harness	10-62
10-19	Boom to Platform Harness	10-64
10-20	Boom Suspension Cab Components	10-66
 SECTION 11 –		
	DECALS	11-1
11-1	Cab & Frame Decals	11-2
11-2	Boom Decals	11-10
11-3	Platform Decals	11-12
 SECTION 12 –		
	MAINTENANCE PARTS LIST	12-1
 SECTION 13 – PART NUMBER INDEX		
		13-1

SECTION 1

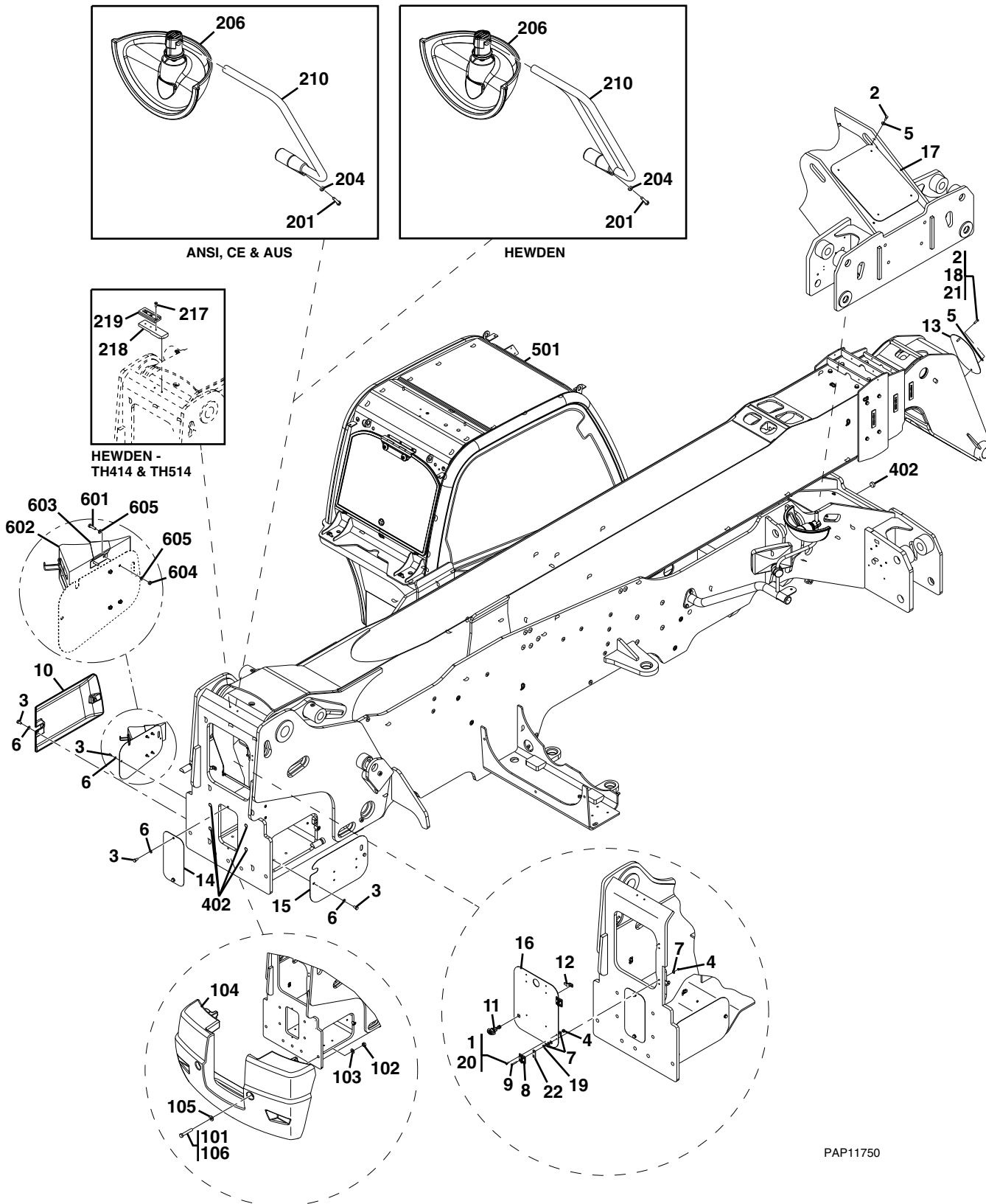
FRAME & ATTACHING PARTS





FRAME & ATTACHING PARTS

Figure 1-1 Frame Shrouding & Trim



PAP11750

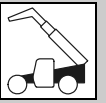
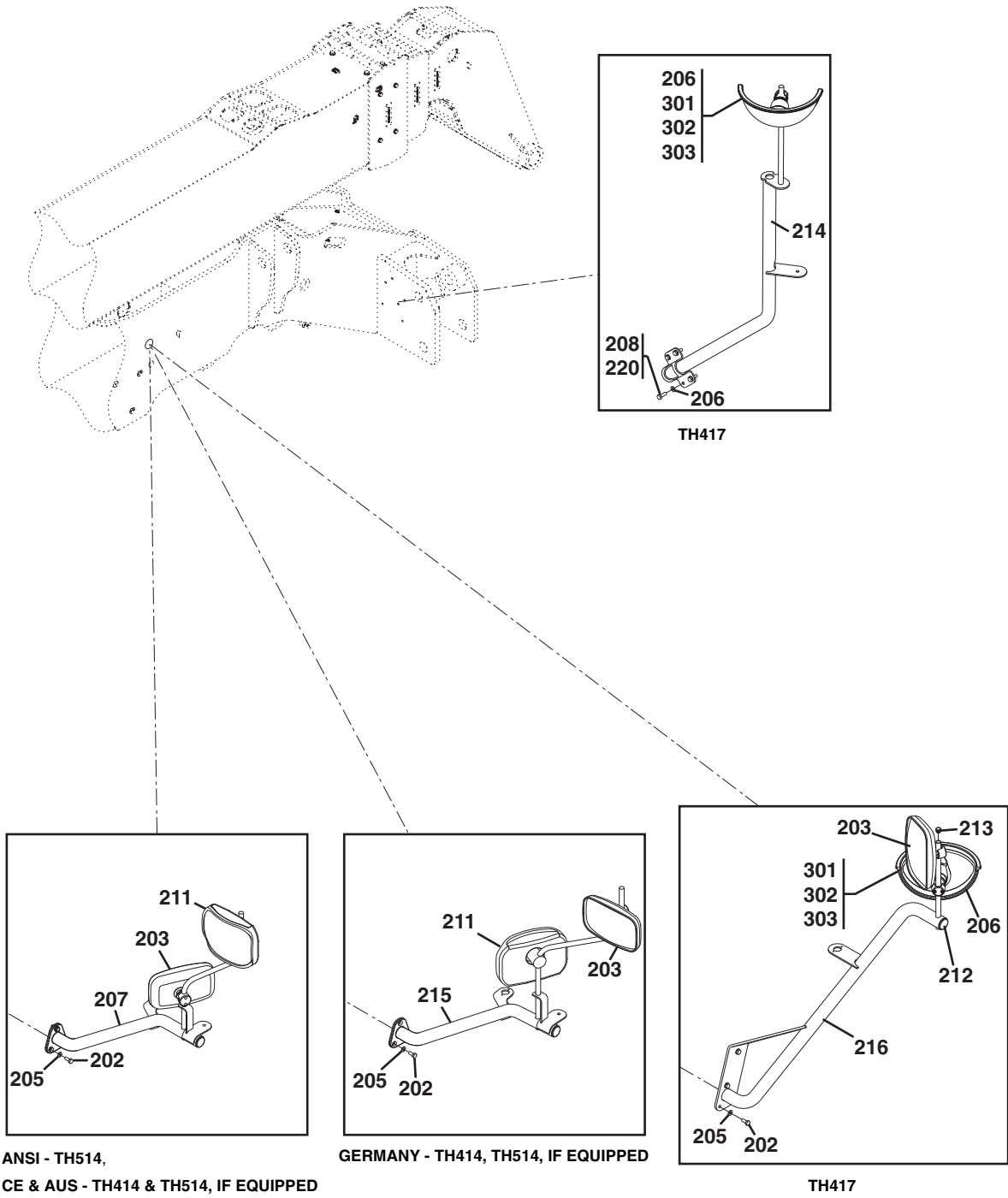


Figure 1-1 Frame Shrouding & Trim (Continued)



ANSI - TH514,
CE & AUS - TH414 & TH514, IF EQUIPPED

GERMANY - TH414, TH514, IF EQUIPPED

TH417

PAM3020



FRAME & ATTACHING PARTS

Figure 1-1 Frame Shrouding & Trim

Item	Part Number	Qty.	Description	Rev.
	316-1995	1	HYDRAULIC PANELS, (TH414 & TH514) , (includes items 1 thru 17)	G
	349-0553	1	HYDRAULIC PANELS, (TH417) , (includes items 1 thru 6, 8 thru 22)	B
1	112-2095	4	FLAT HD CAPSCREW, M6X20	
2	8T-4908	6	HEX HD CAPSCREW, M8X25, GR8.8, (TH414 & TH514)	
	8T-4908	4	HEX HD CAPSCREW, M8X25, GR8.8, (TH417)	
3	8T-4137	6	HEX HD CAPSCREW, M10X20, GR8.8	
4	303-4779	8	LOCKNUT, M6X1	
5	309-3997	6	WASHER, 8mm, (TH414 & TH514)	
	309-3997	4	WASHER, 8mm, (TH417)	
6	8T-4121	6	WASHER, 10mm	
7	330-6891	24	WASHER, 6mm	
8	323-7261	2	HINGE JOINT	
9		4	SCREW, M6X40mm	
10	214-0978	1	COVER	
11	323-5595	1	LATCH ASSY	
12	323-5596	1	PAWL	
13	316-1983	1	FRONT PANEL, (TH414 & TH514)	
	349-0552	1	PLATE, (TH417)	
14	316-1987	1	REAR PANEL	
15	316-1992	1	SIDE PANEL	
16	316-2023	1	REAR HINGED PANEL	
17	237-5087	1	PLATE, (TH414 & TH514)	
	349-0554	1	PLATE, (TH417)	
18	8T-4200	2	HEX HD CAPSCREW, M8X16, GR8.8	
19	8T-4205	8	WASHER, 6mm	
20		AR	LOCTITE® 243™	
21	8T-4224	2	WASHER, 8mm	
22	363-8940	2	SPACER	
	316-5550	Ref	COUNTERWEIGHT INSTALLATION, (CE - TH414) , (not available to order, see items 101 thru 106 for service)	B
	354-8551	Ref	COUNTERWEIGHT INSTALLATION, (AUS - TH414) , (not available to order, see items 101 thru 106 for service)	B
	316-5551	Ref	COUNTERWEIGHT INSTALLATION, (CE & ANSI - TH514) , (TH417) , (not available to order, see items 101 thru 106 for service)	B
	354-8578	Ref	COUNTERWEIGHT INSTALLATION, (AUS - TH514) , (not available to order, see items 101 thru 106 for service)	B
101	8T-6381	2	HEX HD CAPSCREW, M20X120, GR10.9	
102	6V-7742	2	HEX NUT, M20X2.5	
103	329-7279	2	WASHER, 20mm	
104	209-4899	1	COUNTERWEIGHT, (TH414 - CE)	
	346-0763	1	COUNTERWEIGHT, (TH414 - AUS)	
	207-5190	1	COUNTERWEIGHT, (TH514 - CE & ANSI) , (TH417)	
	346-0764	1	COUNTERWEIGHT, (TH514 - AUS)	
105	8T-5439	2	WASHER	
106		AR	LOCTITE® 243™	

BUY NOW

**Then Instant Download
the Complete Manual
Thank you very much!**