SERVICE MANUAL

S25-35XM, S40XMS (D010)



FORM 1492514 Rev. 02/04

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S25-35XM, S40XMS (D010)
SERVICE MANUAL CONTENTS

Section	SRM Number	Rev Date
FRAME	0100 SRM 0545	02/01
MAZDA M4-2.0G ENGINE	0600 SRM 0496	02/01
MAZDA M4-2.5D ENGINE	0600 SRM 0538	02/01
COOLING SYSTEM	0700 SRM 0626	11/01
GASOLINE FUEL SYSTEM	0900 SRM 0547	02/01
LPG FUEL SYSTEM (AISAN OPEN LOOP SYSTEM)	0900 SRM 0925	08/02
LPG FUEL SYSTEM (AISAN CLOSED LOOP SYSTEM)	0900 SRM 0948	02/04
SINGLE-SPEED PS TRANS - DESCR / OPER / REPAIR	1300 SRM 0543	12/03
DRIVE AXLE	1400 SRM 0542	12/03
STEERING AXLE	1600 SRM 0532	02/01
STEERING CONTROL UNIT	1600 SRM 0720	11/03
BRAKE SYSTEM	1800 SRM 0540	02/01
HYDRAULIC SYSTEM and GEAR PUMP	1900 SRM 0539	02/01
MAIN CONTROL VALVE	2000 SRM 0541	02/01
TILT CYLINDERS	2100 SRM 0103	10/03
INSTRUMENT CLUSTER	2200 SRM 0514	01/04
ELECTRICAL SYSTEM (MAZDA M4-2.0G)	2200 SRM 0524	02/01
ELECTRICAL SYSTEM (MAZDA M4-2.5D)	2200 SRM 0550	02/01
MAST - DESCRIPTION	4000 SRM 0521	11/03
MAST - REPAIR	4000 SRM 0522	11/03
INCH (SAE) and METRIC FASTENERS	8000 SRM 0231	03/03
DIAGRAMS	8000 SRM 0544	01/03
CAPACITIES and SPECIFICATIONS	8000 SRM 0546	02/01
PERIODIC MAINTENANCE	8000 SRM 0959	12/03

PART NO. 1492514
Rev. 02/04

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Legend for Figure 28 (Continued)

* Metric Formulas (All Dimensions are in Millimeters)
Class III Mast Type
Dimension E = (0.492 × Y) + (0.985 × Z) + 269 **The Calculation for Dimension E for Class III Mast is the Same as Class II Mast. See Class II Mast - Metric Formula.**
Dimension G Calculations are Similar to Dimension E Dimension G (3 Function) for Lift Heights of 2360 mm to 2960 mm: (1.981 × Y) + (0.985 × Z) – 851 Dimension G (3 Function) for Lift Heights of 3060 mm to 5360 mm: (1.991 × Y) + (0.985 × Z) – 972 Dimension G (4 Function) for Lift Heights of 2360 mm to 2960 mm: (1.981 × Y) + (0.985 × Z) – 919 Dimension G (4 Function) for Lift Heights of 3060 mm to 5360 mm: (1.991 × Y) + (0.985 × Z) – 1100

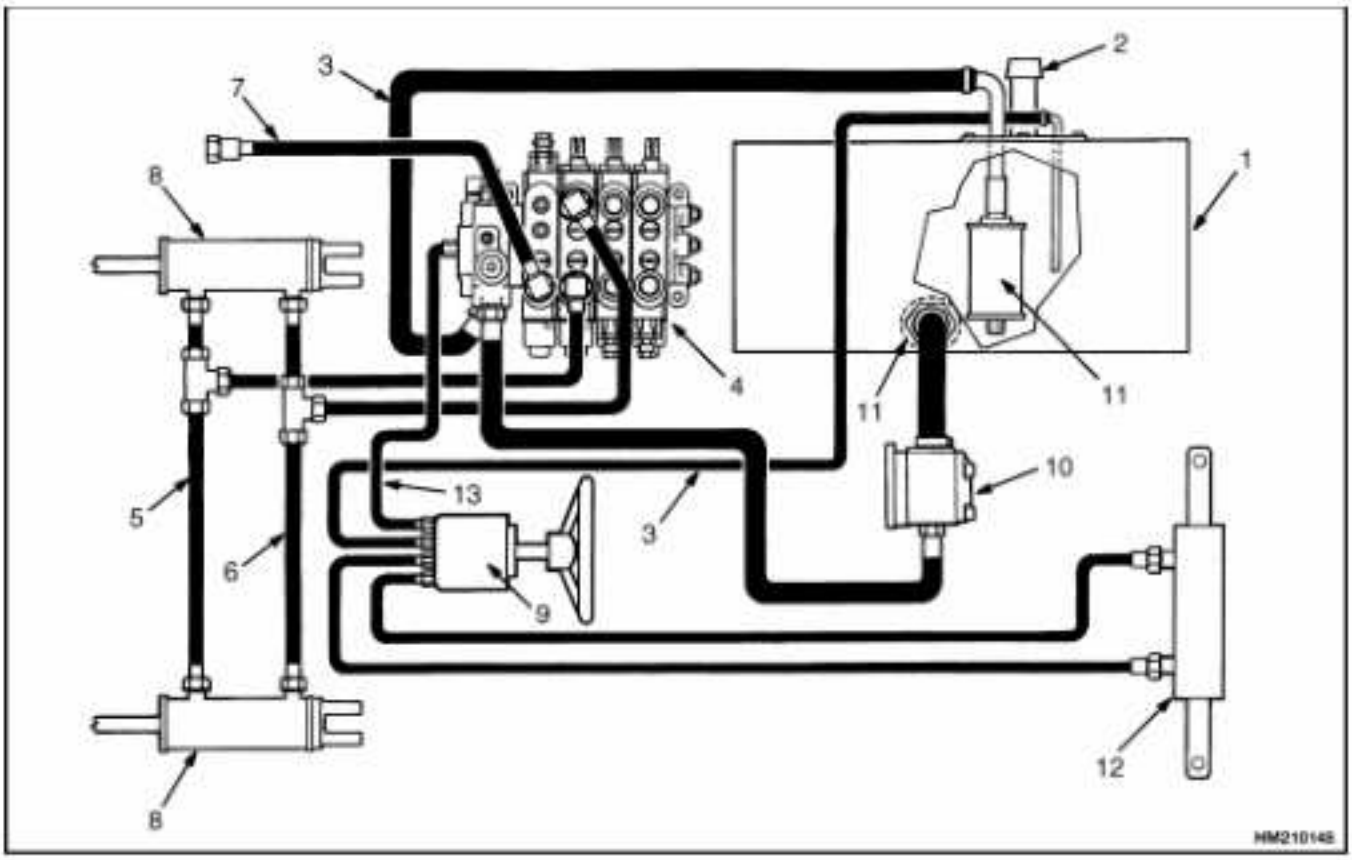
* Inch Formulas (All Dimensions are in Inches)
Class III Mast Type
Dimension E = (0.492 × Y) + (0.985 × Z) + 10.594 **The Calculation for Dimension E for Class III Mast is the Same as Class II Mast. See Class II Mast - Inch Formula.**
Dimension G Calculations are Similar to Dimension E Dimension G (3 Function) for Lift Heights of 92.9 to 116.5 (1.981 × Y) + (0.985 × Z) – 33.500 Dimension G (3 Function) for Lift Heights of 120.5 to 211.0 (1.991 × Y) + (0.985 × Z) – 38.281 Dimension G (4 Function) for Lift Heights of 92.9 to 116.5 (1.981 × Y) + (0.985 × Z) – 36.156 Dimension G (4 Function) for Lift Heights of 120.5 to 211.0 (1.991 × Y) + (0.985 × Z) – 43.312
*All measurements are made with mast vertical and fully lowered.

1. DIMENSION G
2. DIMENSION E
3. VISE
4. TOP OUTER CHANNEL
5. HOSE
6. BOTTOM OUTER CHANNEL
7. GROUND LEVEL

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Legend for Figure 9

1. HYDRAULIC PUMP
2. FLOW DIVIDER SECTION
3. SPOOL SECTIONS (LIFT, TILT, & AUXILIARY)
4. LOWERING CONTROL VALVE (ON MAST)
5. LOWERING CONTROL VALVE (AT CYLINDER PORT)
6. LIFT CYLINDER
7. TILT CYLINDER
8. STEERING CYLINDER
9. STEERING CONTROL VALVE
10. FILTER
11. PRESSURE CHECK PORT
12. LIFT/LOWER SPOOL
13. TILT SPOOL
14. AUXILIARY SPOOL
15. FLOW CONTROL VALVE
16. RELIEF VALVE (STEERING SYSTEM)
17. MAIN RELIEF VALVE
18. AUXILIARY FUNCTION PORTS



1. HYDRAULIC TANK
2. BREATHER
3. RETURN LINE
4. MAIN CONTROL VALVE
5. TILT BACKWARD LINE
6. TILT FORWARD LINE
7. TO LIFT CYLINDER
8. TILT CYLINDER
9. STEERING CONTROL UNIT
10. HYDRAULIC PUMP
11. FILTER
12. STEERING CYLINDER
13. STEERING SUPPLY LINE

Figure 10. Hydraulic System Arrangement

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Troubleshooting

PROBLEM	POSSIBLE CAUSE	PROCEDURE OR ACTION
Tilt cylinder movement is slow or not smooth.	Air is in the hydraulic system.	Remove air from hydraulic system.
	The hydraulic pump is worn or damaged.	Repair or replace hydraulic pump.
	Restriction in the hydraulic lines.	Repair hydraulic lines.
	Seals in tilt cylinder are damaged.	Replace seals and inspect cylinder bore for damage.
	Tilt cylinders have internal damage.	Repair or replace cylinder.
	Load is greater than capacity.	Reduce load.
	Pressure relief valve(s) is not adjusted correctly or is damaged.	Repair or adjust relief valve(s).
	Large leaks between spool and bore.	Replace valve section.
	Spool is not fully extended or retracted.	Adjust linkage to spool.
	Tilt control spool is damaged.	Repair control valve.
The tilt cylinders permit the mast to move when the Tilt control lever is in the Neutral position.	There are leaks in the hydraulic lines.	Tighten fittings or repair leaks.
	Seals in tilt cylinder are damaged.	Replace seals and inspect cylinder bore for damage.
	Tilt cylinders have internal damage.	Repair or replace cylinder.
	Tilt control spool is damaged.	Repair control valve.

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