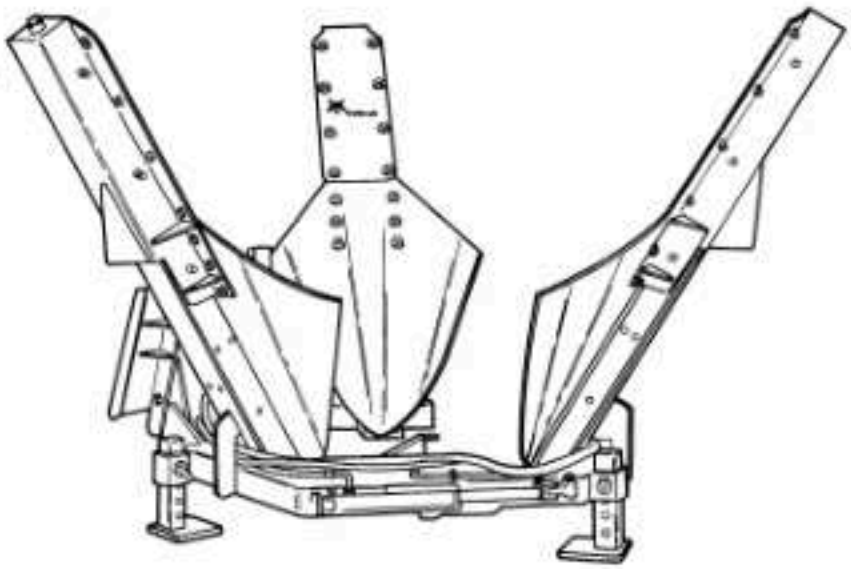
Tree Spade

TS30C	(S/N 973000101 & Above)
	(S/N 973800101 & Above)
TS30C ACD	(S/N 944611101 & Above)
TS30M	(S/N 973100101 & Above)
	(S/N 973900101 & Above)
TS30M ACD	(S/N 944711101 & Above)
TS30T	(S/N 973200101 & Above)
	(S/N 974000101 & Above)
TS30T ACD	(S/N 944811101 & Above)
TS34C	(S/N 973300101 & Above)
	(S/N 974100101 & Above)
TS34C ACD	(S/N 944911101 & Above)
TS34T	(S/N 973400101 & Above)
	(S/N 974200101 & Above)
TS34T ACD	(S/N 945011101 & Above)
TS36M	(S/N 973500101 & Above)
	(S/N 974300101 & Above)
TS36M ACD	(S/N 945111101 & Above)
TS44C	(S/N 973600101 & Above)
	(S/N 974400101 & Above)
TS44M	(S/N 973700101 & Above)
	(S/N 974500101 & Above)

Bobcat®

Service Manual



Ingersoll Rand
Compact Vehicle Technologies

6901000 (2-06)

Printed in U.S.A.

© Bobcat Company 2006

MidWestTech | Bobcat TS30C, TS30C ACD, TS30M, TS30M ACD, TS30T, TS30T ACD, TS...

Order the manual at mid-west-tech.com >

ALPHABETICAL INDEX

ATTACHMENT CONTROL DEVICE (ACD)..... 10-30-6

BLADE ADJUSTMENT 10-10-7
BLADE SHARPENING 10-10-9

ELECTRICAL SCHEMATIC 10-40-3

GLOSSARY OF HYDRAULIC SYMBOLS 10-40-6
GATE PIVOT 10-30-5

HYDRAULIC CONTROL VALVE 10-20-3
HYDRAULIC CYLINDER 10-20-27
HYDRAULIC SCHEMATIC 10-40-10

IDENTIFICATION IV
INSPECTION 10-10-4

JACK STAND 10-30-4

LEVEL INDICATOR LIGHT 10-30-7
LUBRICATION 10-10-6

SERIAL NUMBER LOCATION III
SPECIFICATIONS 10-40-11

TOWER FRAME 10-30-3

MidWestTech | Bobcat TS30C, TS30C ACD, TS30M, TS30M ACD, TS30T, TS30T ACD, TS... Order the manual at mid-west-tech.com >

CONTENTS

ATTACHMENT DELIVERY REPORT III

IDENTIFICATION AND MACHINE SIGNS (DECALS) IV

SERIAL NUMBER LOCATION III

PREVENTIVE MAINTENANCE 10-10-1

HYDRAULIC SYSTEM 10-20-1

MAIN FRAME 10-30-1

SPECIFICATIONS AND SCHEMATICS 10-40-1

CALIFORNIA
PROPOSITION 65 WARNING
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

MidWestTech | Bobcat TS30C, TS30C ACD, TS30M, TS30M ACD, TS30T, TS30T ACD, TS... Order the manual at mid-west-tech.com >

PROBLEM	CAUSE	CORRECTION
Soil sticks to blades.	New paint surface on Tree Spade.	Scour or remove paint from digging portion of blades.
	Soil conditions are too wet.	Schedule digging when soil conditions are appropriate.
Root ball of tree crumbles or breaks when digging.	Dull or worn blades will not cut tree roots.	Sharpen blades.
	Soil conditions are too dry.	Schedule digging when soil conditions are appropriate.
	Digging too large of tree for Tree Spade size.	Follow recommended tree size guidelines when operating Tree Spade.
Root ball falls out bottom of Tree Spade.	Soil conditions are too dry.	Schedule digging when soil conditions are appropriate.
	Improper model choice of Tree Spade.	Choose a Bobcat Tree Spade model with more blade closure.
Excessive wear or damage to the poly slide plates.	Improper adjustment of the setscrews on the slide uprights.	Double check setscrew adjustment and do not over-tighten.
	Uneven down pressure on blades of Tree Spade when digging.	Position the loader so it is level side to side when digging, then use the loader tilt function to level the Tree Spade until the level indicator illuminates.
	Loose or exposed screw fasteners on poly slide plates.	Tighten or replace poly screw fasteners if needed.
	Burr at the rear of tower.	Remove burr by grinding inner edge of tower.
Tree Spade will not dig root ball sizes as specified.	Soil conditions are too hard.	Schedule digging when soil conditions are appropriate.
	Operator not relieving down pressure of blades when digging.	Keep frame in contact with the ground. Retract blade to remove down pressure from tip prior to extending the next blade.
	Inadequate down pressure on Tree Spade.	Rear stabilizers are required when using the Tree Spade.

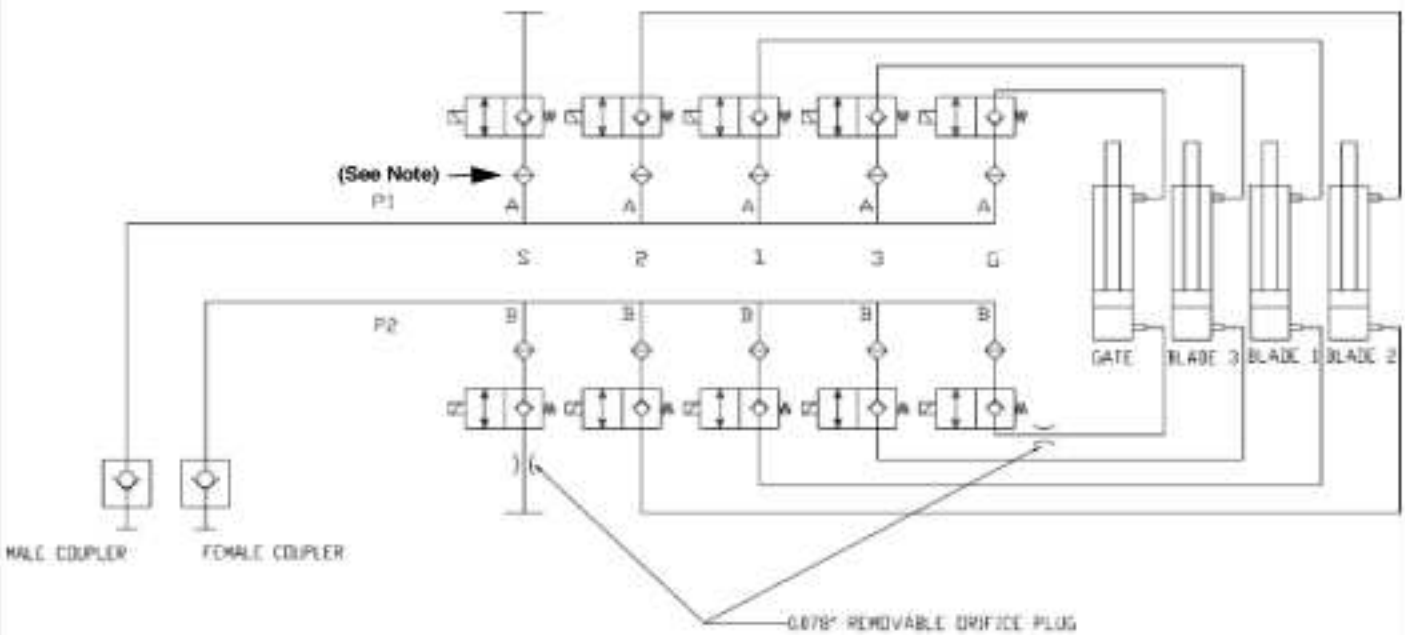
MidWestTech | Bobcat TS30C, TS30C ACD, TS30M, TS30M ACD, TS30T, TS30T ACD, TS...

Order the manual at mid-west-tech.com >

HYDRAULIC SCHEMATIC (CONT'D)

3 Blade Tree Spade - ACD Version

S/N 944611101 & Above thru S/N 945111101 & Above



NOTE: Inlet screens are not installed on later model Tree Spades and may be removed when servicing the valve if desired.

P-20523

MidWestTech | Bobcat TS30C, TS30C ACD, TS30M, TS30M ACD, TS30T, TS30T ACD, TS... Order the manual at mid-west-tech.com >