



Index

Adjustments

Left/Right Angle Oscillation Limit Switches 9,23,55,56

Wobble Up/Down Limit Switches 9,17,55,58

Cold Weather 29

Target Speed/Distance 19,20,43

Singles/Doubles 12,13,15,17,18

Release Time (Stopping the Throw Arm on the brake) 30

Assembly

Throw Arm Brake 29,32,46

Throw Arm Cocking Pin 36

Uni-Band (Main Spring) 39,42,43,44,45

Brake

Assembly of Throw Arm Brake/Maintenance 29,32,46

Changing Uni-Bands on a Main Shaft Clutch System 43

Clutch, Main Shaft

Assembly/Installation of the Uni-Band (Main Spring) to the Main Shaft Clutch 39,42,43,44,45

Changing a Pair of Uni-Bands on a Main Shaft Clutch System 43,45

Installation of Main Shaft Clutch 39,40,42

Cocking Pin Assembly (Throw Arm) 36

Cold Weather (Prevent Cycling of the Throw Arm) 29



Connection

Elevator Compression Spring 49

Elevator Extension Spring 48

Cycling Problem 29

Dimensions and Weight 5

Distance/Speed (Target) 19,20,21

Doubles

Setting Singles/Doubles Roller Plate System 6,13,15,16,17,20,21,27

Doubles Finger 16,35,37,38

Doubles Finger, adjustment for doubles..... 16

Drying out a Pat-Trap Appendix VI

Elevation Cog 15,22

Elevator Spring Replacement.....48,49

Fasteners/Hardware Appendix VIII

Field Angle Adjustment (Left/Right Limit Switches) 54

Flush Hydraulic Fluid..... Appendix II

Fuse..... 59

Grease Bearings..... Appendix I

Hydraulic Cylinder For Wobbles 9,52,58,61,62,63,64



Installation

<i>Elevator Compression Spring</i>	49
<i>Main Shaft Clutch</i>	39,440,42
<i>PAT-TRAP</i>	4
<i>Target Brush</i>	28
<i>Throw Arm</i>	34
<i>Throw Arm Brake</i>	33
<i>Uni-Band (Main Spring)</i>	45
<i>Uni-Band (Main Spring) to the Main Shaft Clutch</i>	45
<i>Doubles Finger</i>	37

<i>Loading the PAT-TRAP</i>	4,11
-----------------------------------	------

<i>Lubricate</i>	12,24
------------------------	-------

<i>Limit Switch (Left/Right)</i>	9,22,55,56
--	------------

Main Shaft Clutch

<i>Assembly of Uni-Band to Main Shaft Clutch</i>	44
<i>Changing a Pair of Uni-Bands on a Main Shaft Clutch</i>	43
<i>Installation</i>	38,39,40,42

<i>Main Spring (uni-band), Disconnecting</i>	43
--	----

Maintenance

<i>Flushing the Hydraulic Oil</i>	Appendix II
<i>Hydraulic Cylinder for the Wobble</i>	58
<i>Maintenance Schedule</i>	Appendix I
<i>Pump Motor</i>	61



Maintenance cont.

Target Brush 28

Throw Arm Brake..... 32

Throw Arm Cocking Pin 36

Throw Arm Shaft Bearing 50

Grease fittings 50

Micro Switch #2..... 8,9,30,31

Mounting the Power Control Box 6

ON/OFF, How to turn on and off 11

Oil, How to Flush Appendix II

Oil, How to turn on 6,11

Oil, Type of 4

Oscillation Cylinder, Replacement of 60

Oscillation Soft Shift Valve, Wiring Guide 53

On/Off/Release 7,8,10,11,13,14,15,16,29

Pat-Trap

Dimensions and Weight 5

How does it work 8

Installation 3

Loading 11

Singles 13

Doubles..... 15



Pat-Trap cont.

Turn Off 11

Turn On 11

Wobble 17

Pinion Assembly and Timing..... Appendix III

Positioning of Roller Plates 25

Power Control Box 6

Connecting..... 7

Mounting..... 2,3,6

Power Source Connection 7

Pull Cord (Switch #1) 7

Pump Motor..... 4

Flushing Hydraulic Fluid 1

Pump Switch 6,10

Reed Switch

How it works8,9,10

Hydraulic Cylinder for Wobble 9,11

Wiring Guide#11(A) and #12(A) Switches 56

Removal/Replacement

Hydraulic Valve 53

Elevator Spring48,49

Field Angle/Limit Switch.....54,55



Removal/Replacement cont.

Oscillation Cylinder 56

Wobble Cylinder 58

Positioning of the Roller Plate 25

Throw Arm 33

Turret 5

Relay #2 – L/R Oscillation 9,56,57

Interrupter 9,10,17

Setting Single/Doubles 13,15,16,17,18,20,21,22

Shifting the Target Field 24

Singles 13

Single & Doubles Finger 37

Soft Shift Valve 51,52,53

Speed/Distance 19,20,21

Springs

Disconnecting the Uni-Band (Main Spring) 34

Elevator Compress Spring 48

Elevator Extension Spring 25,48

Uni-band (Main Spring) 1,6,11,13,15,16,19,20,21,22

Straightaway Targets 29,30



Switches

#2.....	8,9,10,30,31
#11(A) & #12(A)	9,10,23,55
Switch ID	10

<i>(Two) 2-Hole Targets/(Three)3-Hole Targets</i>	<i>23,24,56</i>
---	-----------------

<i>Target Bush Maintenance</i>	<i>28</i>
--------------------------------------	-----------

Targets

<i>Angle Adjustment</i>	<i>9,23</i>
<i>Height Adjustment</i>	<i>18</i>
<i>Setting Speed and Distance</i>	<i>19,20</i>
<i>Target Field, shifting.....</i>	<i>29</i>

<i>Temperature/Release Time</i>	<i>28</i>
---------------------------------------	-----------

Throw Arm

<i>Brake Assembly</i>	<i>29,32</i>
<i>Brake Installation</i>	<i>32</i>
<i>Cocking Pin Assembly</i>	<i>36</i>
<i>Installation</i>	<i>34</i>
<i>Removal of.....</i>	<i>33</i>
<i>Shaft Bearing.....</i>	<i>48</i>
<i>Stopping the Throw Arm on the Brake.....</i>	<i>29,32</i>
<i>Throw Arm/Turret Valve Wiring Guide.....</i>	<i>49, 52</i>

<i>Trouble Shooting</i>	<i>Appendix VII</i>
-------------------------------	---------------------

<i>Turret, Removal/Replacement.....</i>	<i>6</i>
---	----------



Uni-Band *See Main Spring*

Valves

Soft Shift, Oscillation 52,53

Throw Arm/Turret 54,56

Wiring Guide

Hydraulic Cylinder for Wobble 51

Oscillation Soft Shift Valve 51

Pat-Trap & Wobble *Appendix V*

Switches #11(A) & #12(A) 55

Throw Arm/Turret Valve 52

Wobble

Change over to..... 17, 18

Height Adjustment for Single/Doubles..... 17, 18

Hydraulic Cylinder 55, 58

UP/DOWN Limit Switch 55, 58