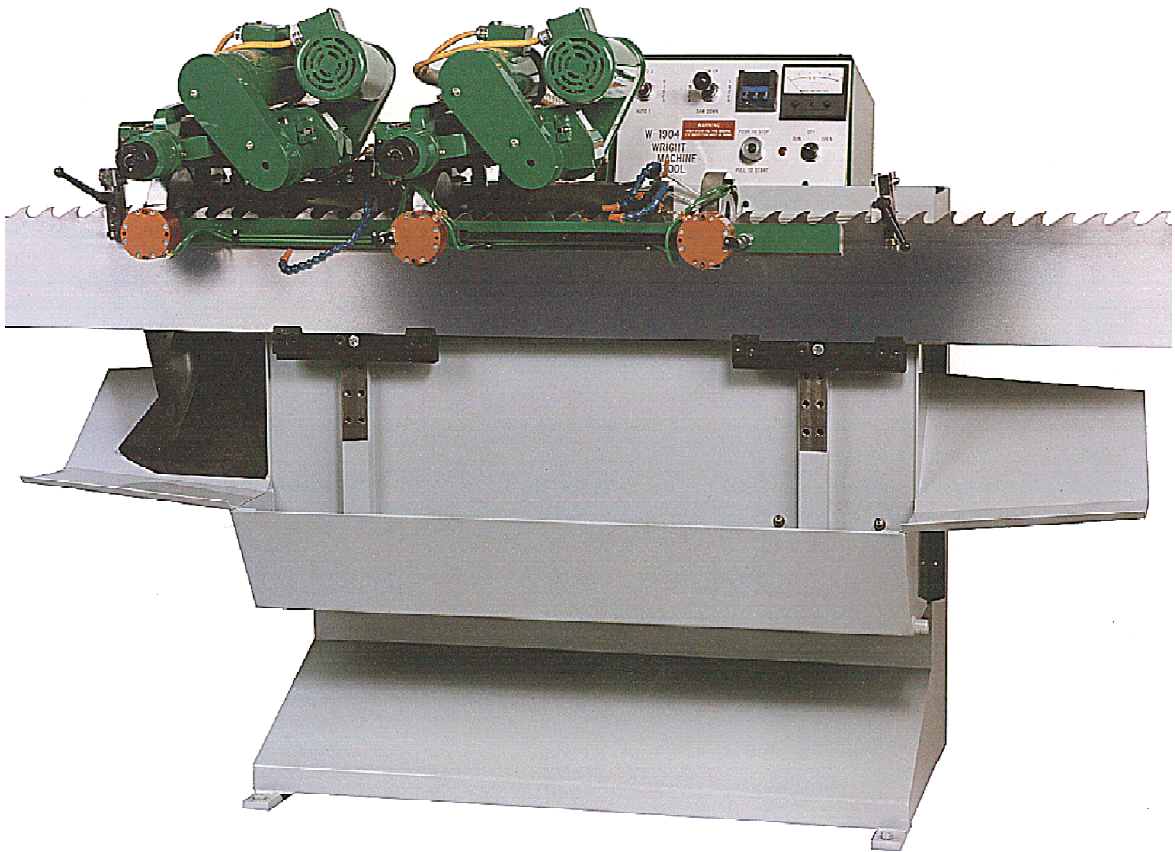


WRIGHT
W-1904
"QUAD"
QUAD Head Side Grinder



Owner's Manual

Wright
Machine
Tool

W-1904 QUAD DUAL SIDE GRINDER

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W-1904 QUAD DUAL SIDE GRINDER

LIMITED WARRANTY

This machine is warranted against defects in workmanship and materials under normal use and proper maintenance, for one year after date of purchase from WRIGHT MACHINE TOOL CO. Any part which is determined to be defective in material or workmanship and returned to WRIGHT MACHINE TOOL CO., shipping costs prepaid will be repaired or replaced, at WRIGHT MACHINE TOOL CO. option.

WRIGHT MACHINE TOOL CO., INC.
365 Palmer Avenue
Cottage Grove, Oregon 97424

PHONE (541) 942-3712
FAX (541) 942-0730



Revised 10-30-98

W-1904 QUAD DUAL SIDE GRINDER

GENERAL SAFETY RULES

Failure to follow the safety rules and other basic safety precautions, may result in serious injury.

Always use eye protection: When operating this machine, eye protection should be worn. Grinding particles and the possibility of wheel breakage make eye protection necessary. Also face or dust mask if operation is dusty. Use adequate ventilation.

Use ear protection: If operation is creating excessive noise.

Disconnect power: To machine when NOT in use.

Keep Clear: Of grinding wheels and pinch points when machine is running.

Don't over reach: Keep proper footing and balance at all times.

Saws are sharp: Wear appropriate personal protective equipment when handling saw blades.

Mounting of wheels: Should only be done by persons with mechanical aptitude and good knowledge of mounting, care, and inspection of grinding wheels. Wheels must be rated for the RPM of the machine.

Dress properly: Do not wear loose clothing or jewelry. Nonskid foot wear is recommended. Wear protective hair covering to contain long hair.

Avoid dangerous environments: Don't use in wet location. Keep work area well lit. Do not use this machine in the presence of flammable liquid or gasses.

Keep children away: Do not let VISITORS contact this machine.

Keep work area clean: Cluttered areas invite accidents.

All electrical covers: Must be in place before applying electrical power to this machine. Electrical service must be locked out prior to removing any electrical covers on machine guards. Access to electrical components must be restricted to trained personnel only to avoid possible electrical shock.

Voltage greater: Than specified on name plate can result in serious injury to user.

Never stand on this machine: Serious injury could occur if the machine tipped or if the grinding wheel is accidentally contacted.

Follow safety precautions: For the wheels, coolant and material being ground. This information is available on the Safety Data sheet for each of these products.



W-1904 QUAD DUAL SIDE GRINDER

SPECIFICATIONS

The W-1904 "QUAD" is designed to Side Grind Band Saws. A Roughing Station sizes the tooth to approximate dimension using two 5" 11V9 Cup Wheels, at the same time the Finish Station grinds the second tooth to the exact dimension using two 5" C. B. N. Grinding Wheels.

STANDARD VOLTAGE:	440 Volt, 3 Phase, 50/60 HZ
OPTIONAL VOLTAGE:	As Requested
SHIPPING WEIGHT:	2,300 lbs
CRATE SIZE:	L 83" X W 48" X H 60"
AIR REQUIREMENTS:	2 CFM at 80 psi
STANDARD SAW SIZE:	6" to 16"
OPTIONAL SAW SIZE:	Down to 2"
SPINDLE MOTORS:	(4) 1hp 3450 RPM Motors TEFC



W-1904 QUAD DUAL SIDE GRINDER

OPTIONS

Totalizer Counter	W-70
Double Cuts Saw Carrier for Machine:	W-1550
Short Band Saw Support Assembly:	W-2083
Narrow Band Saw Carrier 2" to 6":	W-2190
Sliver Tooth Saw Carrier (4 Required):	W-2231-1
Stands:	W-2259 Back Feed W-2260 Back Stands W-2262 Guide Stands
Double Cuts Saw Carrier for Back Stands:	W-2265
DRO Readouts:	
S G Grinding Wheel (Rough Head)	V-45 (2 Req.)
Borazon Grinding Wheel (Finish Head)	B-45 (2 Req.)
Coolant Concentrate	5 Gal. Cimcool Qualstar

COMMON REPLACEMENT PARTS

Coolant Nozzle	W-1294
Feed Finger Assy	W-2186-1



W-1904 QUAD DUAL SIDE GRINDER

PRE SET UP COOLANT

Coolant capacity is 7 to 10 gallons. A rust inhibiting grinding coolant **MUST** be used or severe rust damage to machine can result. Mix coolant according to manufacturer's instructions. Coolant pump plugs into female receptacle on back door of the machine.

RUST DAMAGE IS NOT COVERED BY THE WARRANTY

MOUNTING GRINDING WHEELS

All grinding wheels must be rated for the RPM of this machine. Wheels exposed to higher than rated RPM are dangerous.

Mounting of the grinding wheel should only be done by persons with mechanical aptitude and good knowledge of mounting, care, and inspection of grinding wheels.

STYLE OF GRINDING WHEELS

ROUGHING HEAD

V-45
Cup Wheel 5" X 1-3/4" X 1-1/4" 11V9 2 Required

FINISH HEAD

B-45
Cup Wheel 5" X 1-3/4" X 1-1/4" Borazon 2 Required

GRINDING WHEELS MUST BE RATED FOR 5000 RPM OR THE RPM OF YOUR MACHINE.

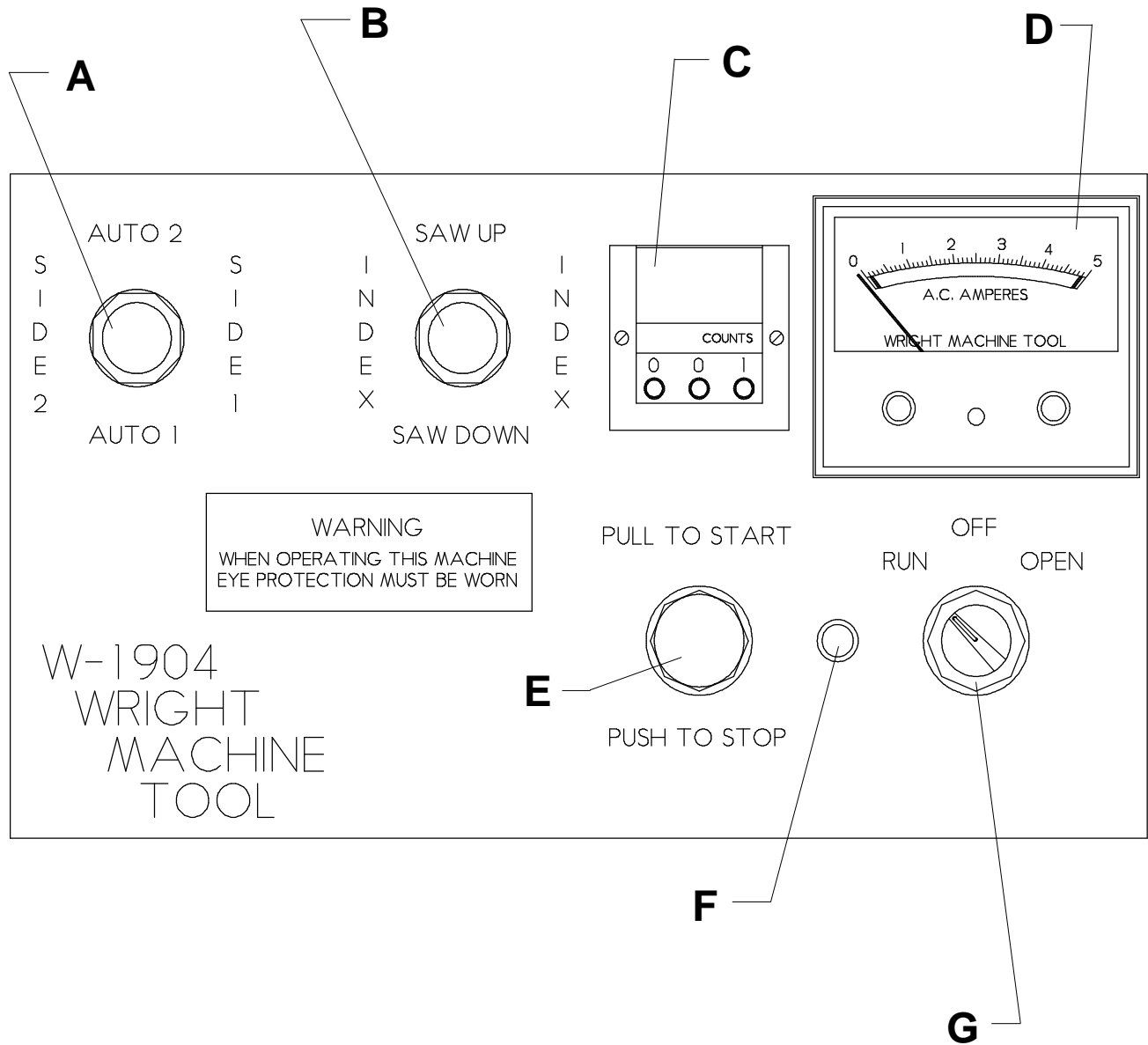
NOTE: Power must be disconnected to machine when changing Grinding Wheels.

To change Grinding Wheels move head to full open position. With a 3/16 Allen wrench, loosen wheel retainer bolt located through the 1/2" hole in the belt cover. The wheel retainer bolt is standard right hand thread.



W-1904 QUAD DUAL SIDE GRINDER

CONTROL PANEL



W-1904 QUAD DUAL SIDE GRINDER

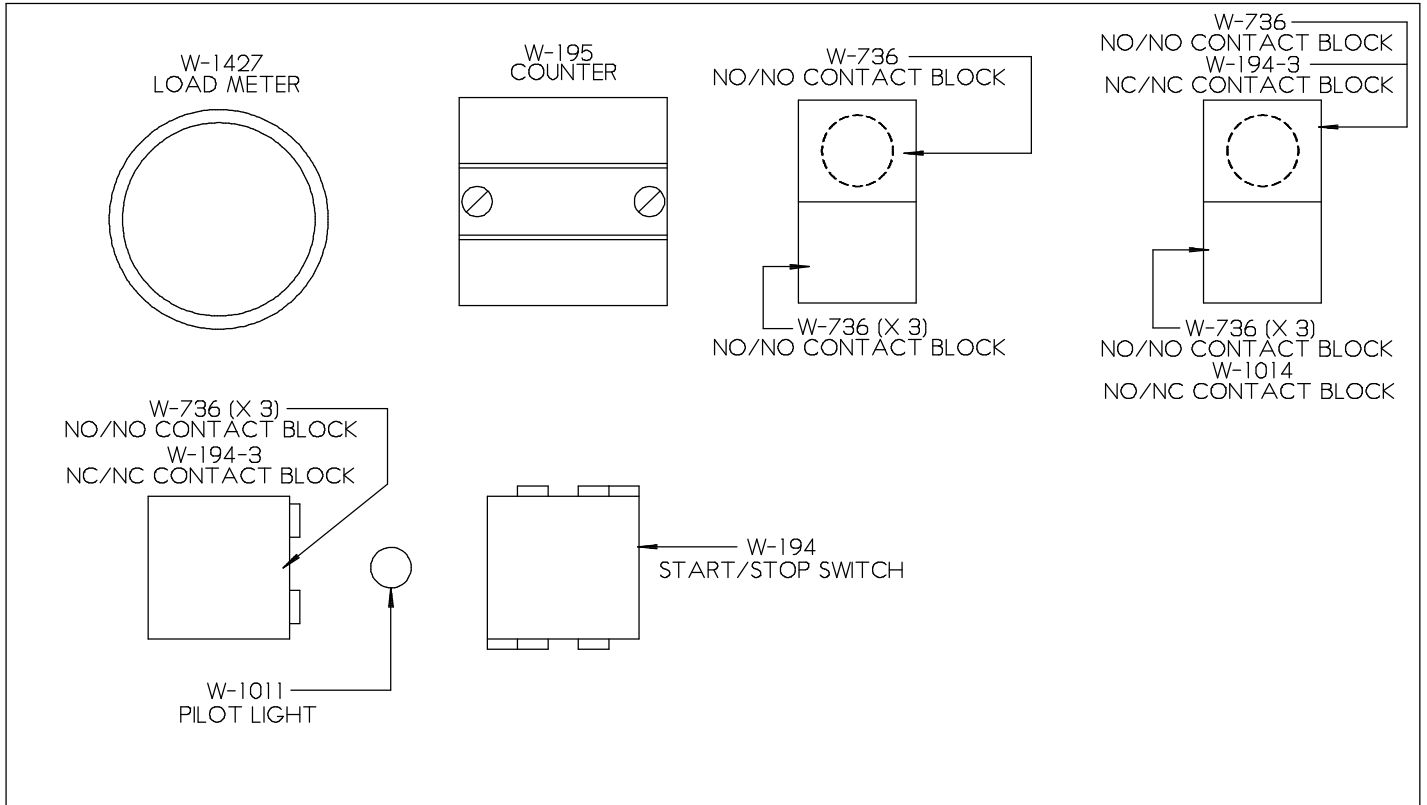
CONTROL PANEL

- A.** Control Joy Switch has 5 positions. Left for side #2 (Manual Finish Head In only), right for side #1 (Manual Rough In only), down for Automatic #1 (Rough Grind only) up is for Automatic #2 (Rough and Finish Grind only.) Machine must be running for these controls to work.
- B.** Saw Up / Saw Down only function when saw clamp is open. Index Forward / Reverse only function when saw clamp is closed and machine is not running.
- C.** Tooth Counter only counts in the Automatic #2 position.
- D.** The Load Meter monitors the power required to grind on the Finish Head. The Load Meter is set by turning the black set knobs. The knob on the right side of the meter controls at what load the forward feed speed is stopped. The knob on the left controls at what load the forward speed starts again. If the Finish Head hits a tooth that is wider than expected, this load meter will slow the speed as necessary to reduce the chance of wheel or saw damage.
- E.** Pull to start - Push to stop.
- F.** Indicator light shows power to machine.
- G.** Open position - Opens saw clamp jaws. Run position - Closes clamp jaws and allows the machine to be started. When machine is not in use turn to Off position.



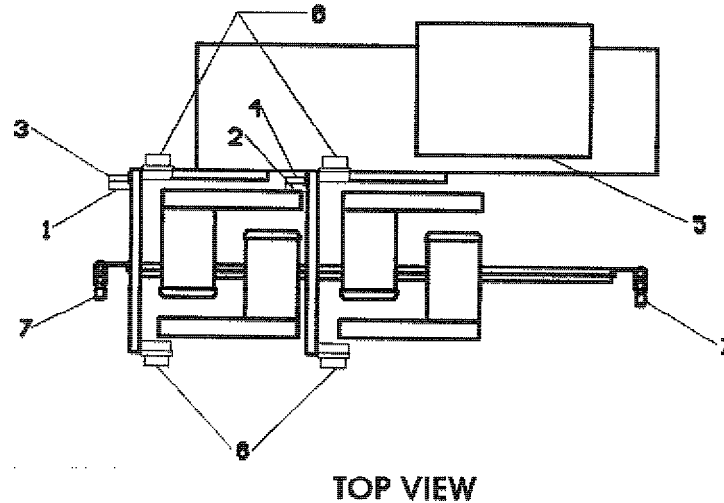
W-1904 QUAD DUAL SIDE GRINDER

CONTROL PANEL BACKSIDE



W-1904 QUAD DUAL SIDE GRINDER

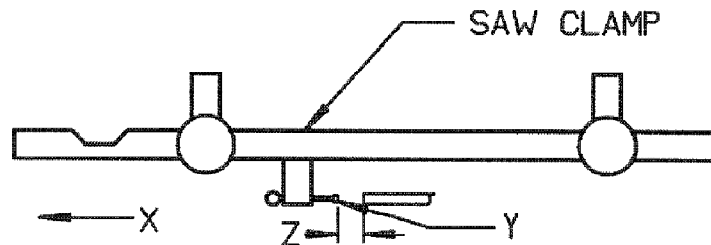
MACHINE CONTROLS



1. Depth of grind Finish Head.
2. Depth of grind Roughing Head.
3. Grind speed Finish Head.
4. Grind speed Roughing Head.
5. Control console.
6. In-Feed knobs (4).
7. Band Saw hold downs (2).

SETTING INDEX PITCH

To set Index Tooth Pitch, place Switch (G) to Run. Hold Index Joy Switch (B) to the right. Index will move to position (X). Add 7/8" to the tooth spacing of the band you are grinding and adjust bolt (Y) until gap (Z) is at the dimension.



WM RIGHT **M**ACHINE

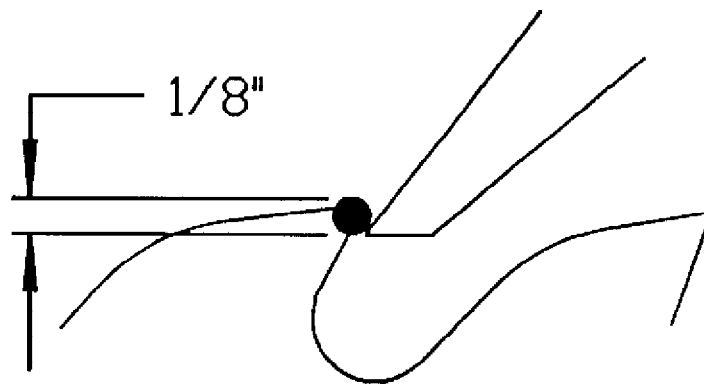
W-1904 QUAD DUAL SIDE GRINDER

LOADING SAW

1. Turn Switch (G) to Open. Move Saw carrier Down by moving Switch (B) to Saw Down.
2. Place saw in carrier track. Move Switch (B) to Saw Up. As saw is traveling up through the Clamp Jaws, make certain that the Index Fingers are over a gullet. Otherwise the fingers and saw tooth may be damaged.

HANDS MUST BE KEPT CLEAR OF PINCH POINTS DURING THIS OPERATION

3. The band saw is in the proper position when the tooth is $1/8''$ above the Index Finger.



NOTE: The more accurate the height is set, less variation in Kerf will be experienced. If the tooth is placed higher a wider Kerf will occur. If lower, a narrower Kerf will occur.

W-1904 QUAD DUAL SIDE GRINDER

LOADING SAW SET UP (CONTINUED)

4. Tighten Band Saw Hold Down at each end of the Saw Clamp Bar. If too tight the index will not be able to slide back, and if too loose the band saw will lift up when indexing.
5. After making sure the Index Finger is in the gullet, turn Switch (G) to Run. This will close the Clamp Jaws. Move Joy Switch (B) to the left until a tooth passes the Index Finger. Then allow Joy Switch (B) to return to center position.
6. At this time a saw tooth should be against the Index Fingers. If the index stroke is insufficient, adjust as shown on page 8.
7. Set Tooth Counter (C) on the number of teeth to be ground.
8. Place Joy Switch (A) in center position, pull Start button.
9. After coolant flow is on tip, place Joy Switch (A) into Automatic #1.
10. The Roughing Head will travel down and grind a tooth. Set speed and stroke as necessary.
11. Adjust In-Feed knobs as necessary on the Roughing Head to leave .005 to .007 per side for Finish Grind.
12. As the machine cycles the rough ground teeth to the left and the first rough ground tooth reaches the Index Finger, shift Joy Switch (A) to Automatic #2. This will start the Finish Head cycling.
13. Adjust In-Feed knobs as necessary to obtain finish kerf width. Set speed and stroke as necessary.



W-1904 QUAD DUAL SIDE GRINDER

TOOTH GEOMETRY

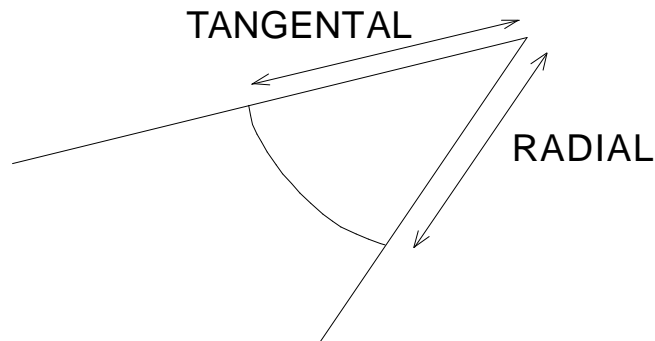
The W-1904 is set at what we consider **AVERAGE** tooth angles when it leaves our factory.

FINISH HEAD

30 Degree Hook - 8 Degree Back 3 Degree Tangential 3 Degree Radial

ROUGHING HEAD

30 Degree Hook 0 Degree Tangential 1 Degree Radial



NOTE: The Roughing Head must be set on 0 degree tangential.

If different angles are desired, adjust as follows.



W-1904 QUAD DUAL SIDE GRINDER

TOOTH GEOMETRY (CONTINUED)

RADIAL ANGLE

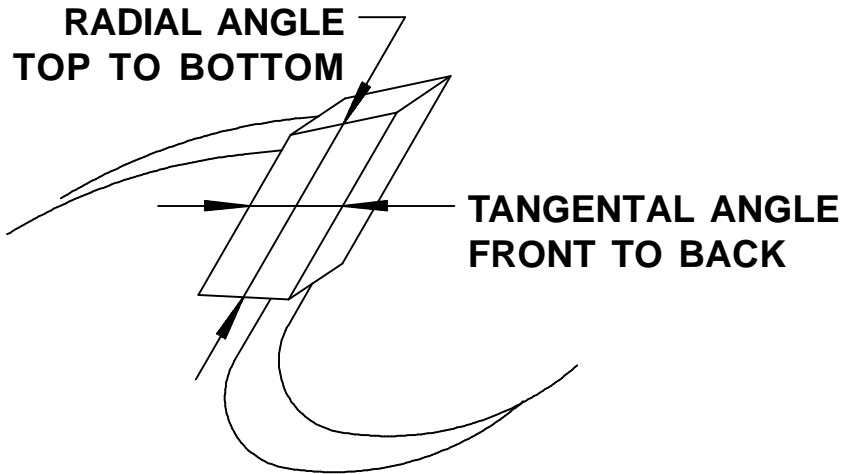
Loosen Radial Lock Bolts, move In-Feed handle up or down as necessary to set desired radial angle. Radial scale reads in degrees.

TANGENTIAL ANGLE

Loosen Tangential Lock Bolts and move Spindle Housing as necessary to set desired tangential angle. Tangential scale reads in degrees.



W-1904 QUAD DUAL SIDE GRINDER



CONVERSION CHART

DEGREES OF ANGLE CONVERTED TO DROP OFF IN THOUSANDTHS X DISTANCE.

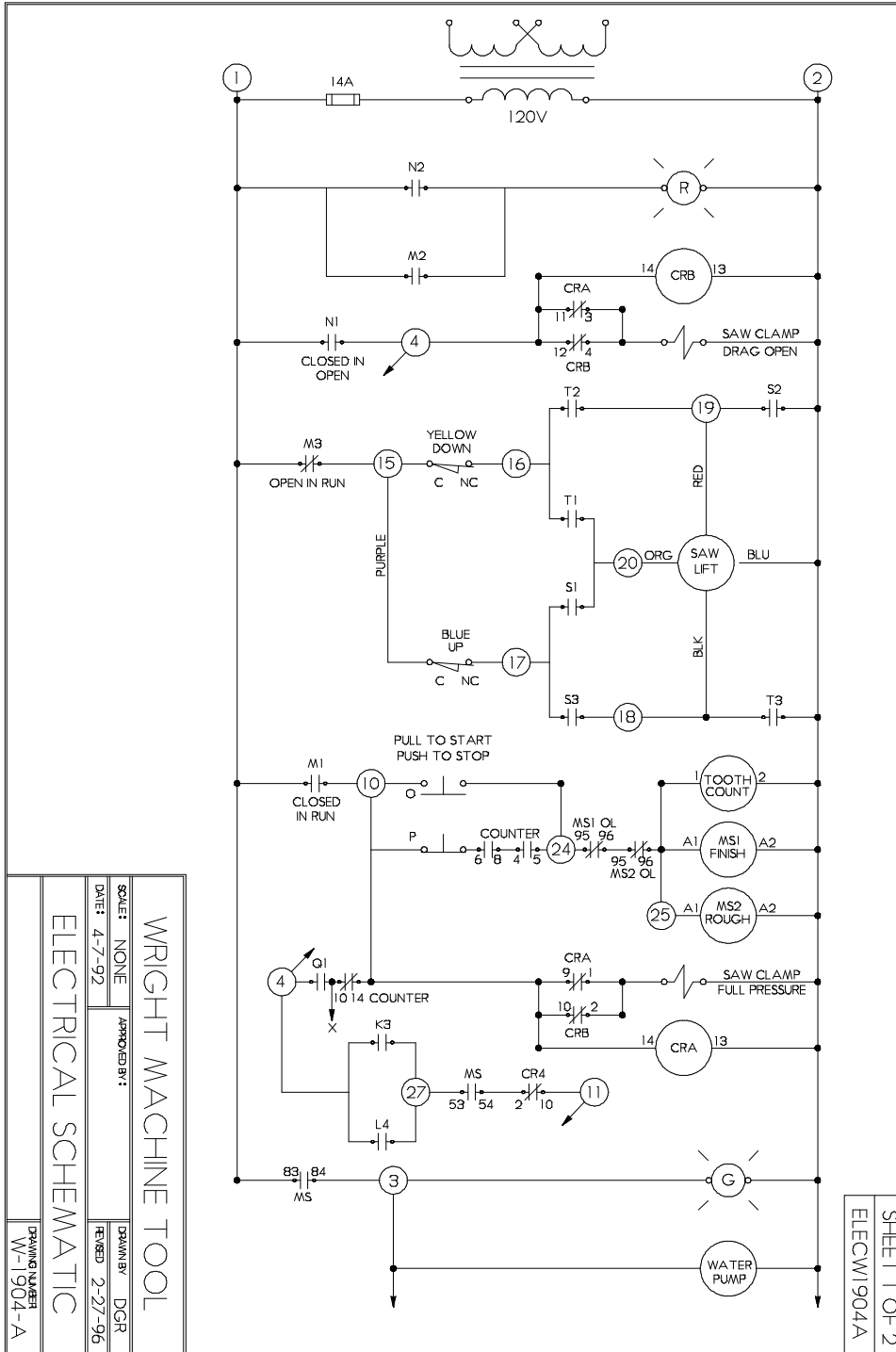
To convert degrees to thousandths, select degrees required on line (A). Example: 3.5 degrees. On line (B) select length of measurement. Example: .375 for a 3/8 tip. Where 3.5 degrees and .375 intersect is drop off in thousandths of an inch.

Line (A)	.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
.125	1	2	3	4	5	6	7	8	9	10	11	12
.250	2	4	7	9	11	13	15	18	20	22	24	26
.312	3	5	8	11	14	16	19	22	25	27	30	33
.375	3	7	10	13	16	20	23	26	30	33	36	39
.437	4	8	11	15	19	23	27	30	34	38	42	46
.500	4	9	13	17	22	26	31	35	39	44	48	52
Line (B)												



W-1904 QUAD DUAL SIDE GRINDER

ELECTRICAL SCHEMATIC



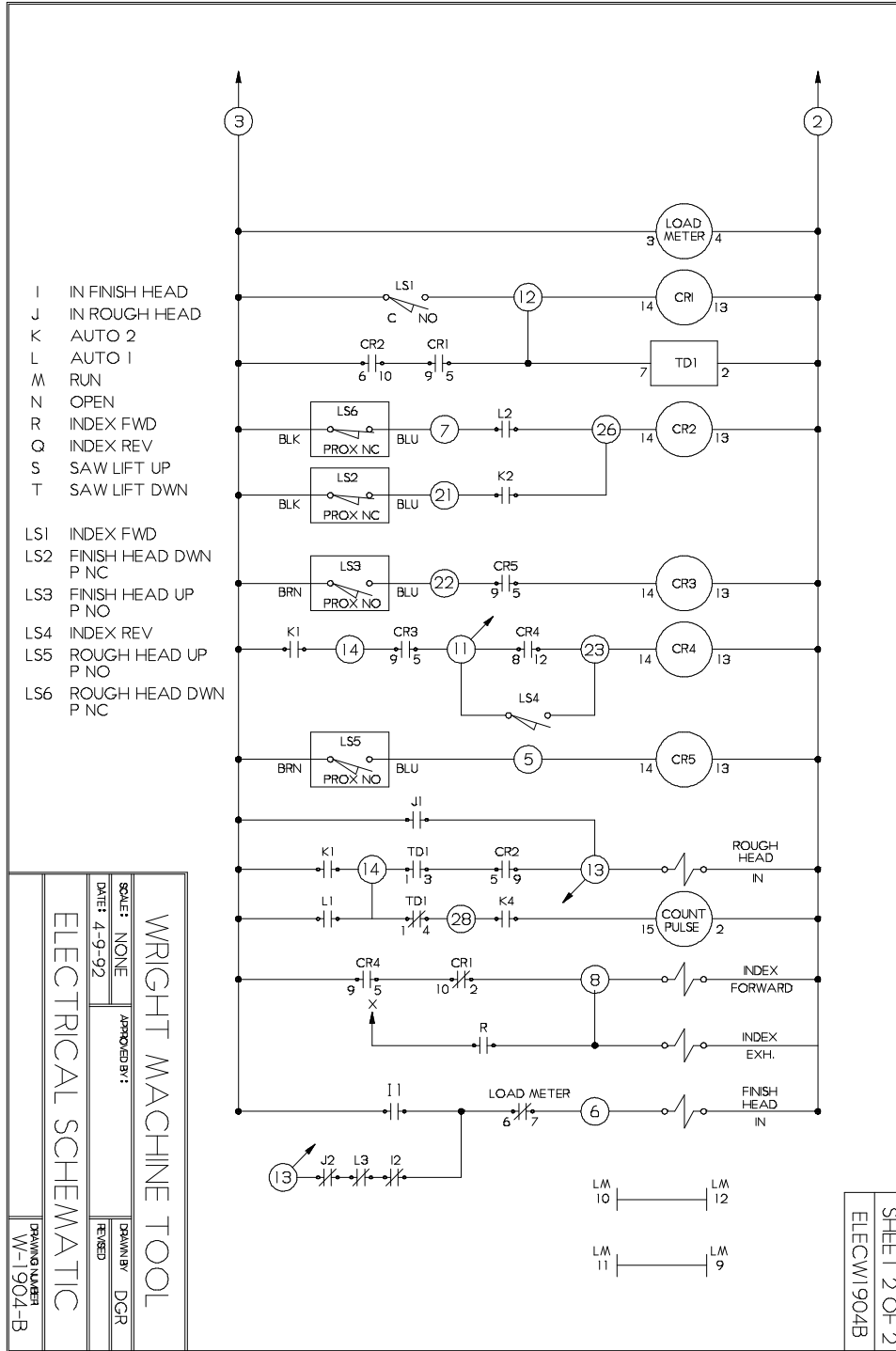
DRAWING NUMBER W-1904-A	
ELECTRICAL SCHEMATIC	
DATE: 4-7-92	APPROVED BY: DCR
SCALE: NONE	REVISION: 2-27-96
WRIGHT MACHINE TOOL	

SHEET 1 OF 2
ELEC W1904A



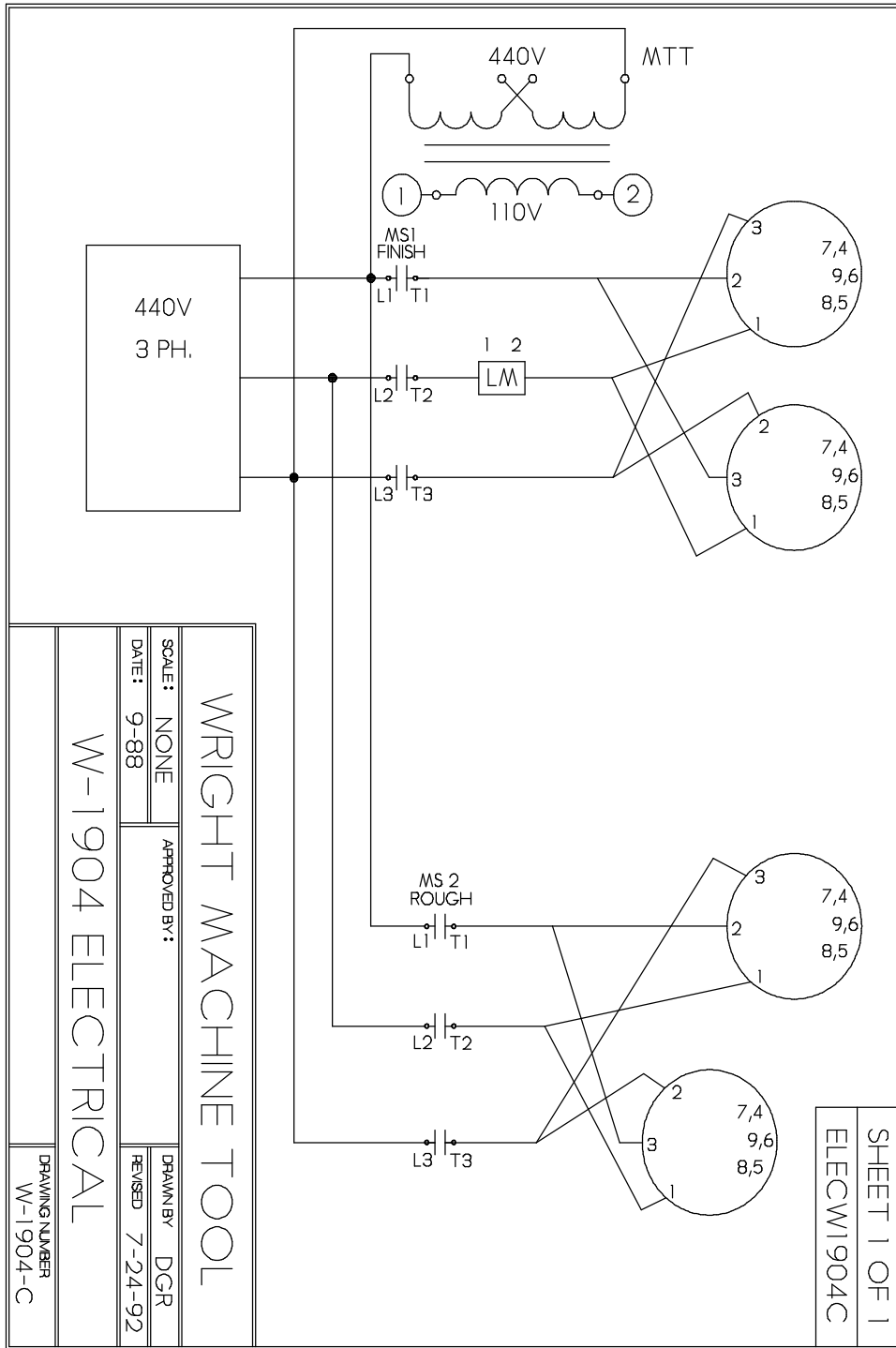
W-1904 QUAD DUAL SIDE GRINDER

ELECTRICAL SCHEMATIC

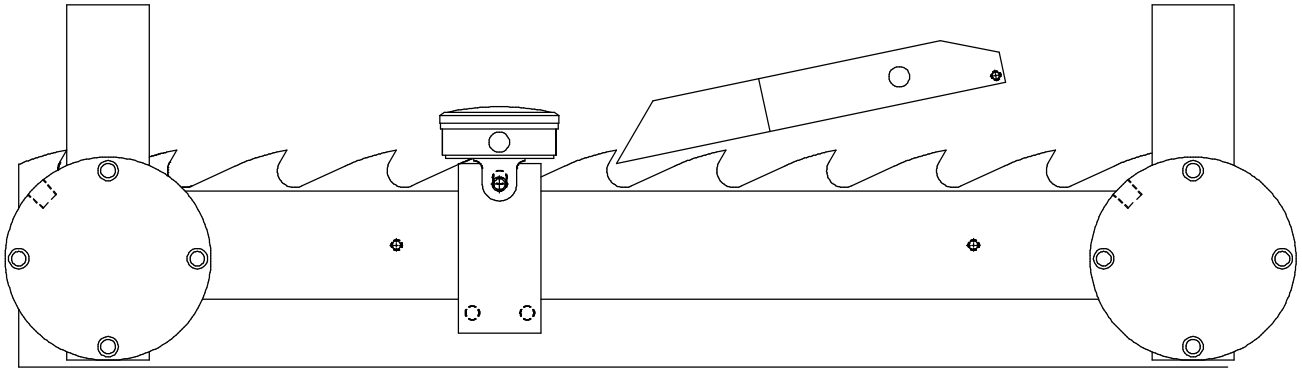


W-1904 QUAD DUAL SIDE GRINDER

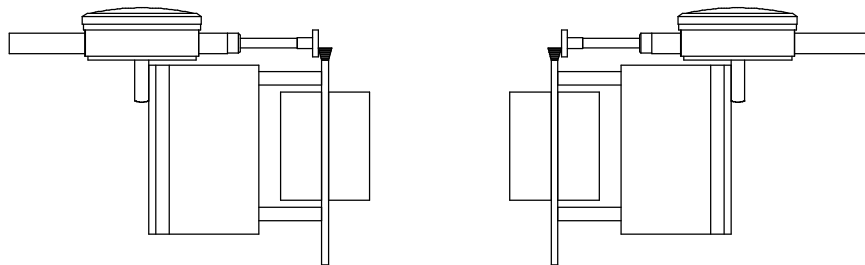
ELECTRICAL SCHEMATIC



W-1904 QUAD DUAL SIDE GRINDER



**NOTE: USE SIDE DIAL INDICATOR WITH CLAMP JAWS
CLOSED.
THIS WILL INSURE PROPER MEASUREMENT.**



WM RIGHT MACHINE

W-1904 QUAD DUAL SIDE GRINDER

PARTS LIST

This parts list is broken down into various areas within the machine. Each of the following areas have part numbers that start on the first page with an assembly view on the following page.

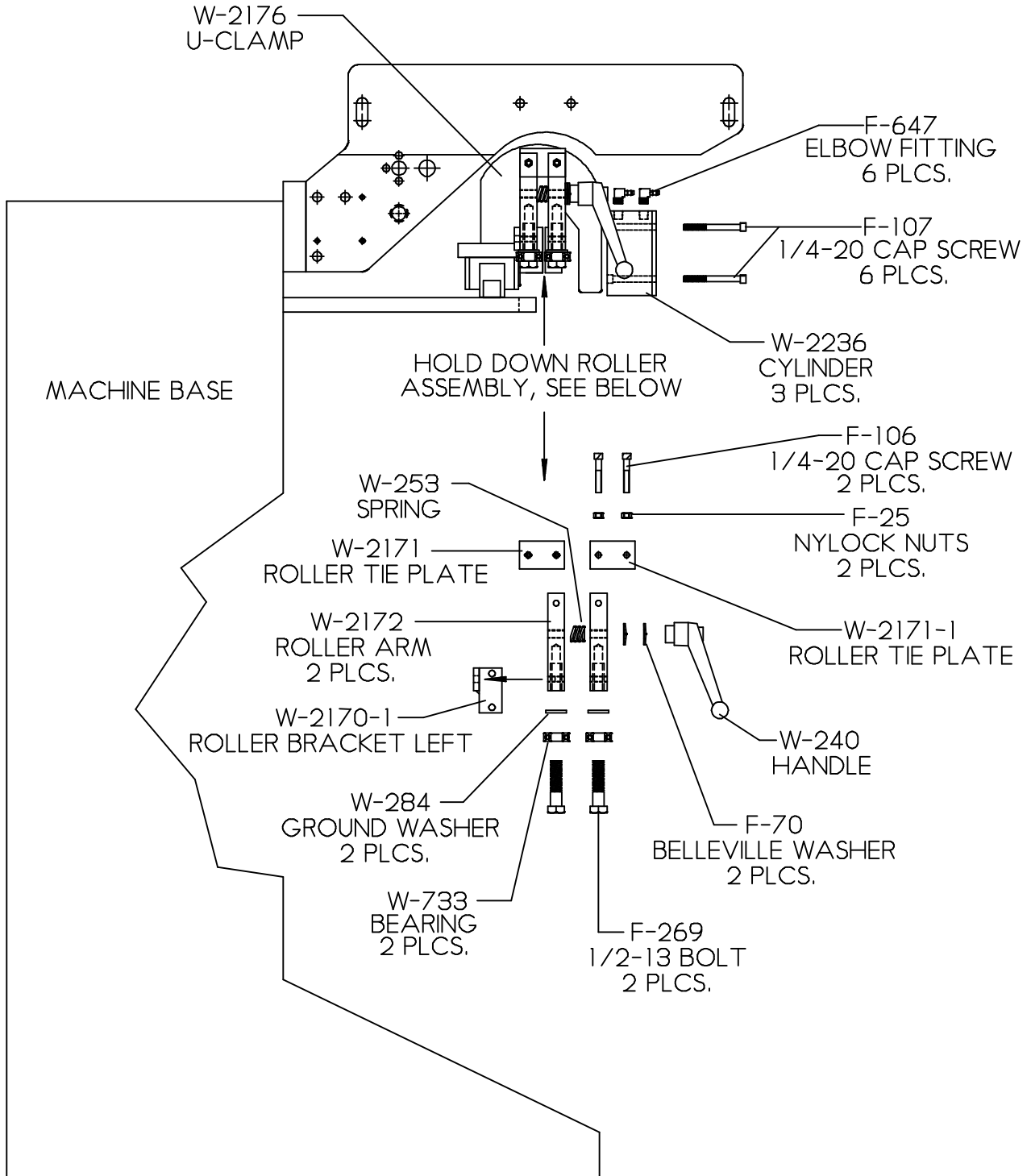
LEFT END OF BASE (OUTSIDE)

QTY	PART NUMBER	DESCRIPTION
2	F-25	NYLOCK NUTS
2	F-70	BELLEVILLE WASHER
2	F-106	1/4-20 SOCKET HEAD CAP SCREW
6	F-107	1/4-20 SOCKET HEAD CAP SCREW
2	F-269	1/2-13 BOLT
6	F-647	ELBOW FITTING
1	W-240	HANDLE
1	W-253	COMPRESSION SPRING
2	W-284	GROUND WASHER
2	W-733	BEARING
1	W-2170-1	ROLLER BRACKET LEFT
1	W-2171	ROLLER TIE PLATE
1	W-2171-1	ROLLER TIE PLATE
2	W-2172	ROLLER ARM
1	W-2176	U-CLAMP
3	W-2236	AIR CYLINDER



W-1904 QUAD DUAL SIDE GRINDER

LEFT END OF BASE (OUTSIDE)



W-1904 QUAD DUAL SIDE GRINDER

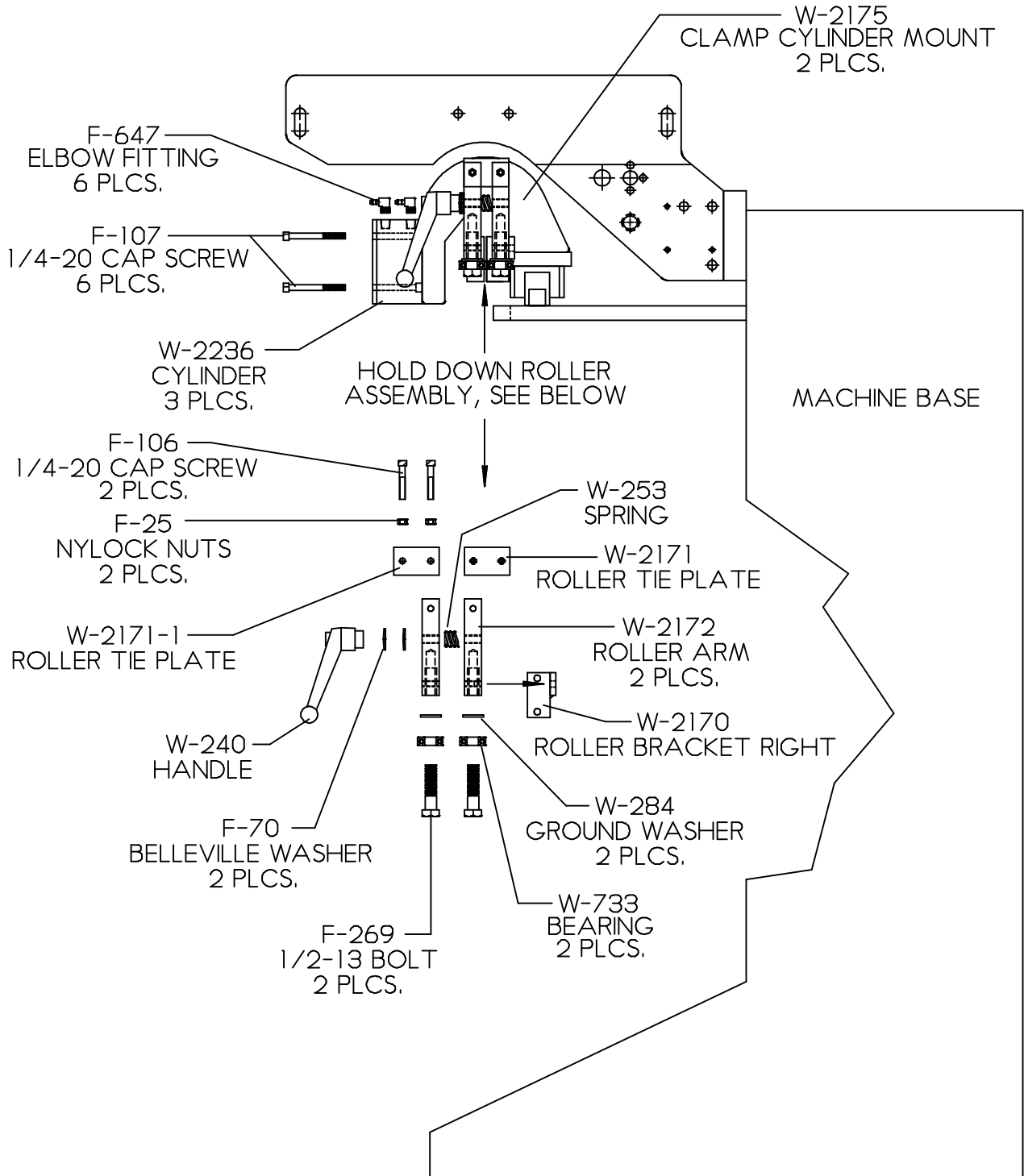
RIGHT END OF BASE (OUTSIDE)

QTY	PART NUMBER	DESCRIPTION
2	F-25	NYLOCK NUTS
2	F-70	BELLEVILLE WASHER
2	F-106	1/4-20 SOCKET HEAD CAP SCREW
6	F-107	1/4-20 SOCKET HEAD CAP SCREW
2	F-269	1/2-13 BOLT
6	F-647	ELBOW FITTING
1	W-240	HANDLE
1	W-253	COMPRESSION SPRING
2	W-284	GROUND WASHER
2	W-733	BEARING
1	W-2170	ROLLER BRACKET RIGHT
1	W-2171	ROLLER TIE PLATE
1	W-2171-1	ROLLER TIE PLATE
2	W-2172	ROLLER ARM
2	W-2175	CLAMP CYLINDER MOUNT
3	W-2236	AIR CYLINDER



W-1904 QUAD DUAL SIDE GRINDER

RIGHT END OF BASE (OUTSIDE)



W-1904 QUAD DUAL SIDE GRINDER

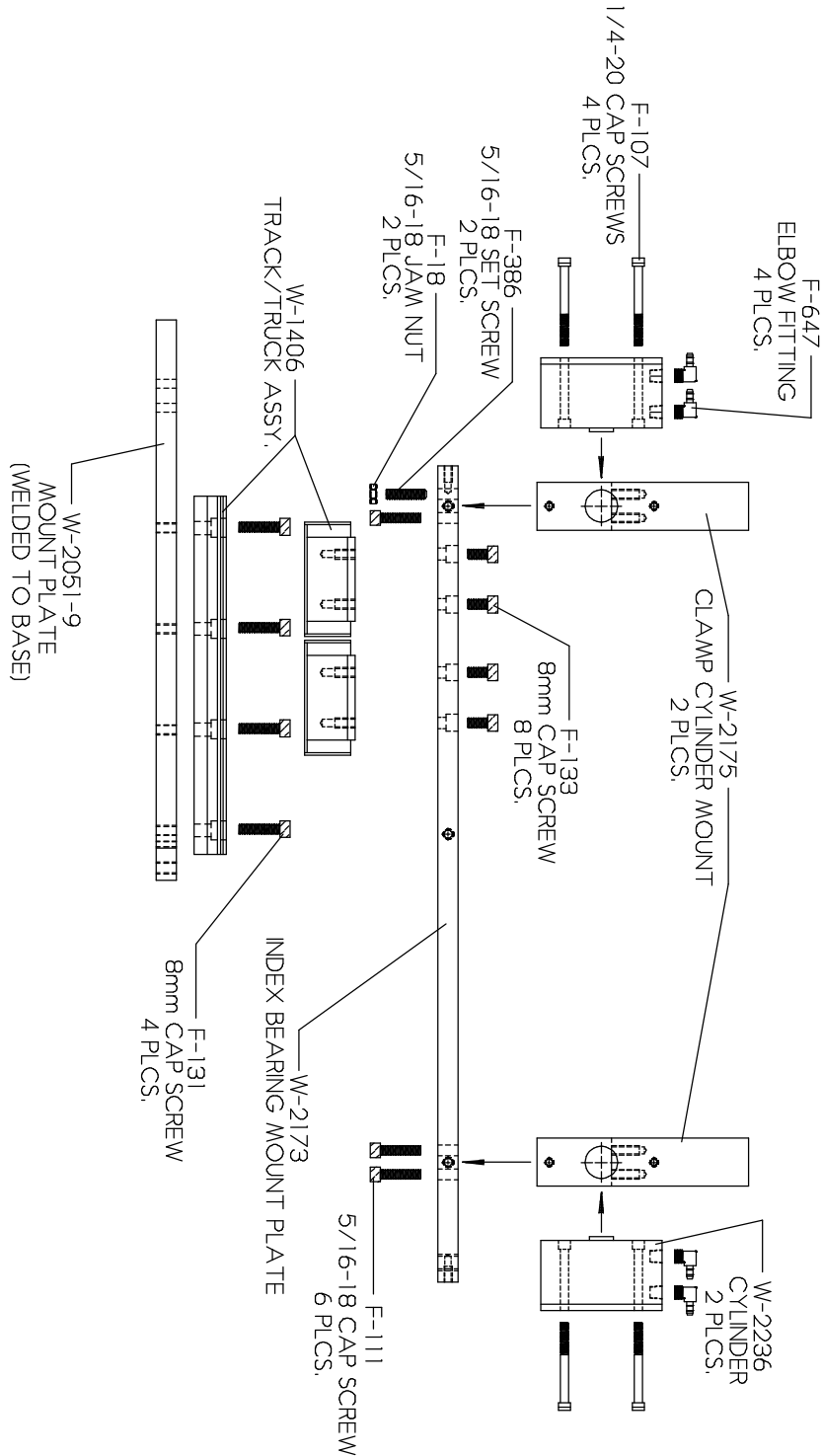
CLAMP FEED SYSTEM

QTY	PART NUMBER	DESCRIPTION
2	F-18	5/16-18 JAM NUT
4	F-107	1/4-20 CAP SCREW
6	F-111	5/16-18 CAP SCREW
4	F-131	8mm CAP SCREW
8	F-133	8mm CAP SCREW
2	F-386	5/16-18 SET SCREW
4	F-647	ELBOW FITTING
1	W-1406	TRACK/TRUCK ASSEMBLY
1	W-2051-9	MOUNT PLATE
1	W-2173	INDEX BEARING MOUNT PLATE
2	W-2175	CLAMP CYLINDER MOUNT
2	W-2236	AIR CYLINDER



W-1904 QUAD DUAL SIDE GRINDER

FRONT VIEW OF CLAMP FEED SYSTEM



W-1904 QUAD DUAL SIDE GRINDER

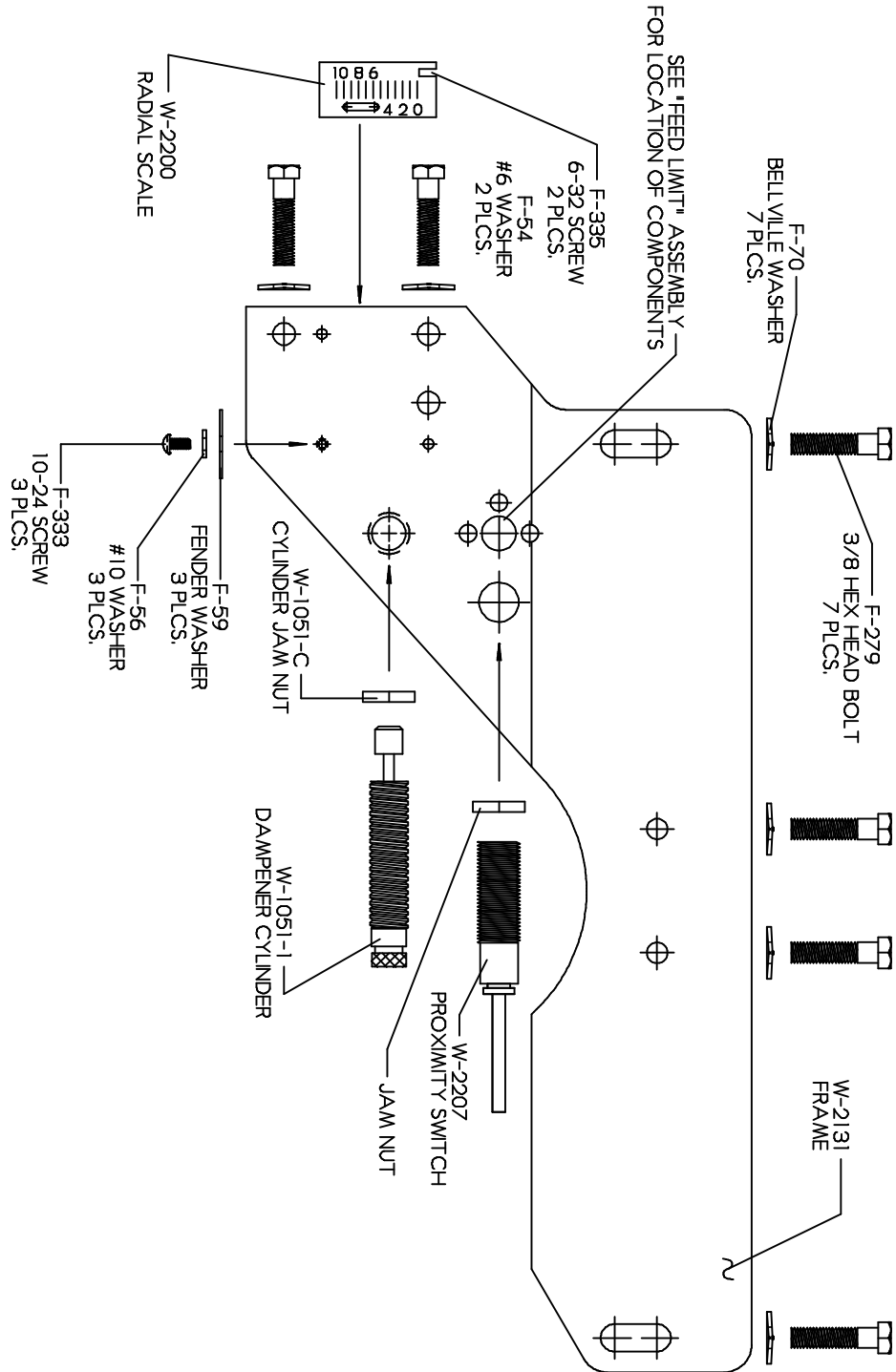
FRAME MOUNT FOR GRINDING HEAD

QTY	PART NUMBER	DESCRIPTION
2	F-54	#6 WASHER
3	F-56	#10 WASHER
3	F-59	FENDER WASHER
7	F-70	BELLEVILLE WASHER
7	F-279	3/8-16 HEX HEAD BOLT
3	F-333	10-24 SET SCREW
2	F-335	6-32 CAP SCREW
1	W-1051-C	CYLINDER JAM NUT
1	W-1051-1	DAMPENER CYLINDER
1	W-2131	FRAME
1	W-2200	RADIAL SCALE
1	W-2207	PROXIMITY SWITCH



W-1904 QUAD DUAL SIDE GRINDER

FRAME MOUNT FOR GRINDING HEAD



W-1904 QUAD DUAL SIDE GRINDER

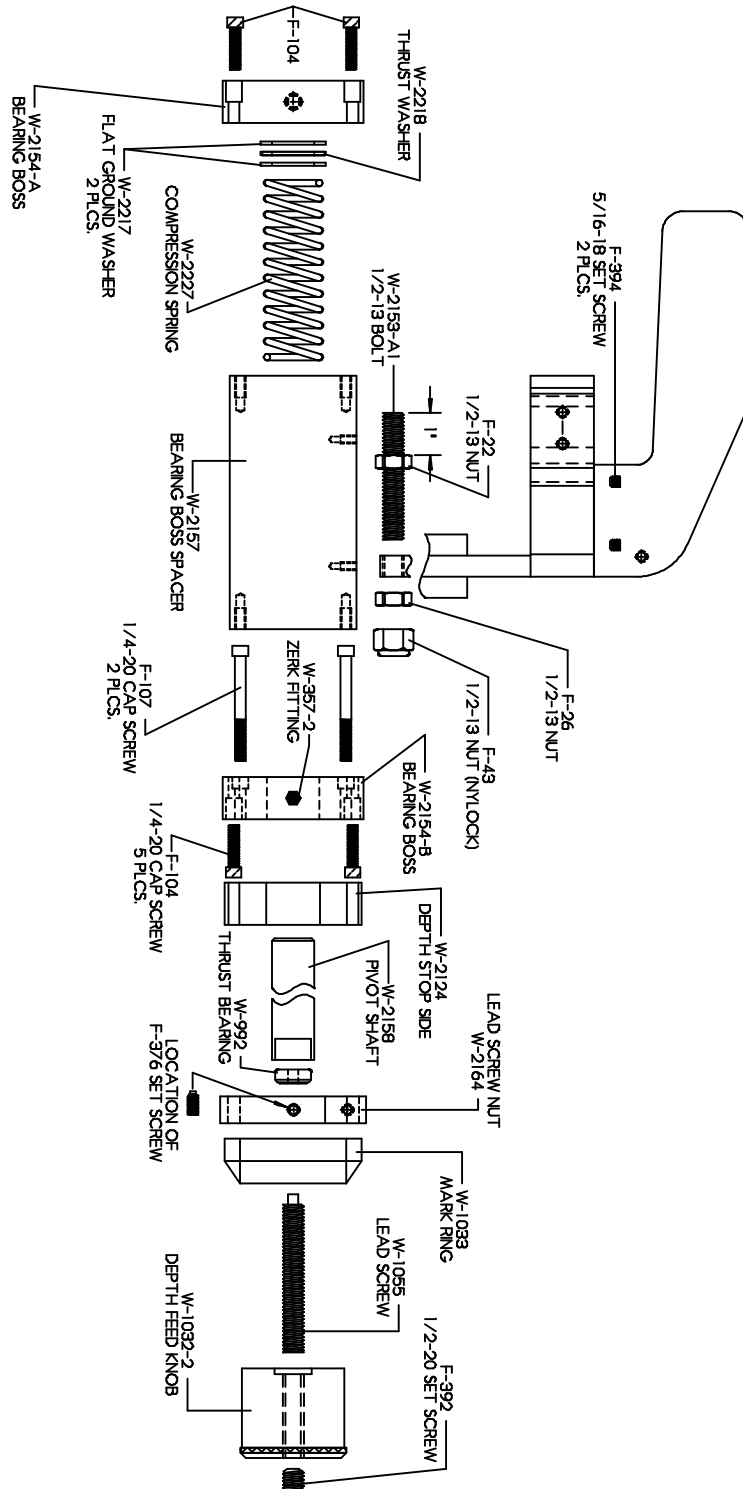
(INNER) GRINDING HEAD ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-22	1/2-13 NUT
1	F-26	1/2-13 NUT
1	F-43	1/2-13 NYLOCK NUT
5	F-104	1/4-20 CAP SCREW
2	F-107	1/4-20 CAP SCREW
1	F-376	1/4-20 SET SCREW
1	F-392	1/2-20 SET SCREW
2	F-394	5/16-18 SET SCREW
1	W-357-2	ZERK FITTING
1	W-992	THRUST BEARING
1	W-1032-2	DEPTH FEED KNOB
1	W-1033	MARK RING
1	W-1055	LEAD SCREW
1	W-2124	DEPTH STOP SIDE
1	W-2153-A1	1/2-13 BOLT
1	W-2154-A	BEARING BOSS
1	W-2154-B	BEARING BOSS
1	W-2157	BEARING BOSS SPACER
1	W-2158	PIVOT SHAFT
1	W-2164	LEAD SCREW NUT
2	W-2217	FLAT GROUND WASHER
1	W-2218	THRUST WASHER



W-1904 QUAD DUAL SIDE GRINDER

INNER GRINDING HEAD ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

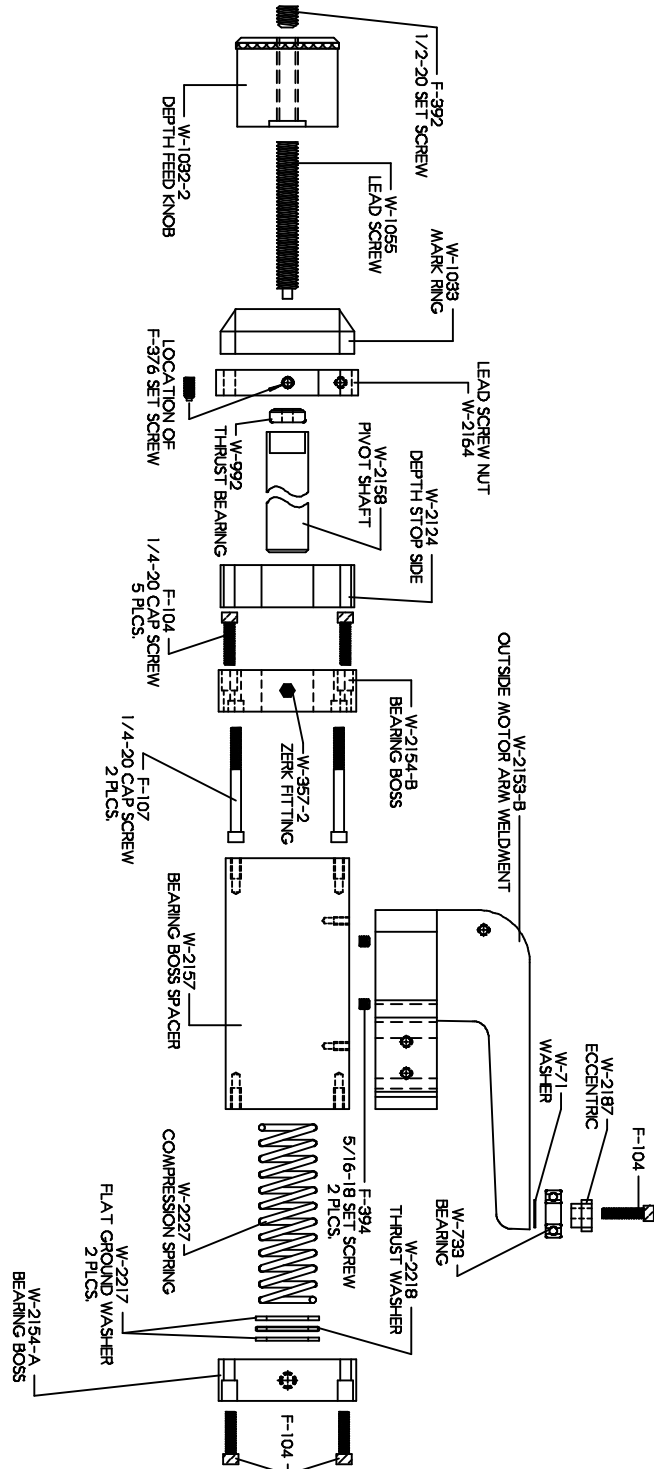
(OUTER) GRINDING HEAD ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
5	F-104	1/4-20 CAP SCREW
2	F-107	1/4-20 CAP SCREW
1	F-376	1/4-20 SET SCREW
1	F-392	1/2-20 SET SCREW
2	F-394	5/16-18 SET SCREW
1	W-71	WASHER
1	W-357-2	ZERK FITTING
1	W-733	BEARING
1	W-992	THRUST BEARING
1	W-1032-2	DEPTH FEED KNOB
1	W-1033	MARK RING
1	W-1055	LEAD SCREW
1	W-2124	DEPTH STOP SIDE
1	W-2153-B	OUTSIDE MOTOR ARM WELDMENT
1	W-2154-A	BEARING BOSS
1	W-2154-B	BEARING BOSS
1	W-2157	BEARING BOSS SPACER
1	W-2158	PIVOT SHAFT
1	W-2164	LEAD SCREW NUT
1	W-2187	ECCENTRIC
1	W-2217	FLAT GROUND WASHER
1	W-2218	THRUST WASHER
1	W-2227	COMPRESSION SPRING



W-1904 QUAD DUAL SIDE GRINDER

OUTER GRINDING HEAD ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

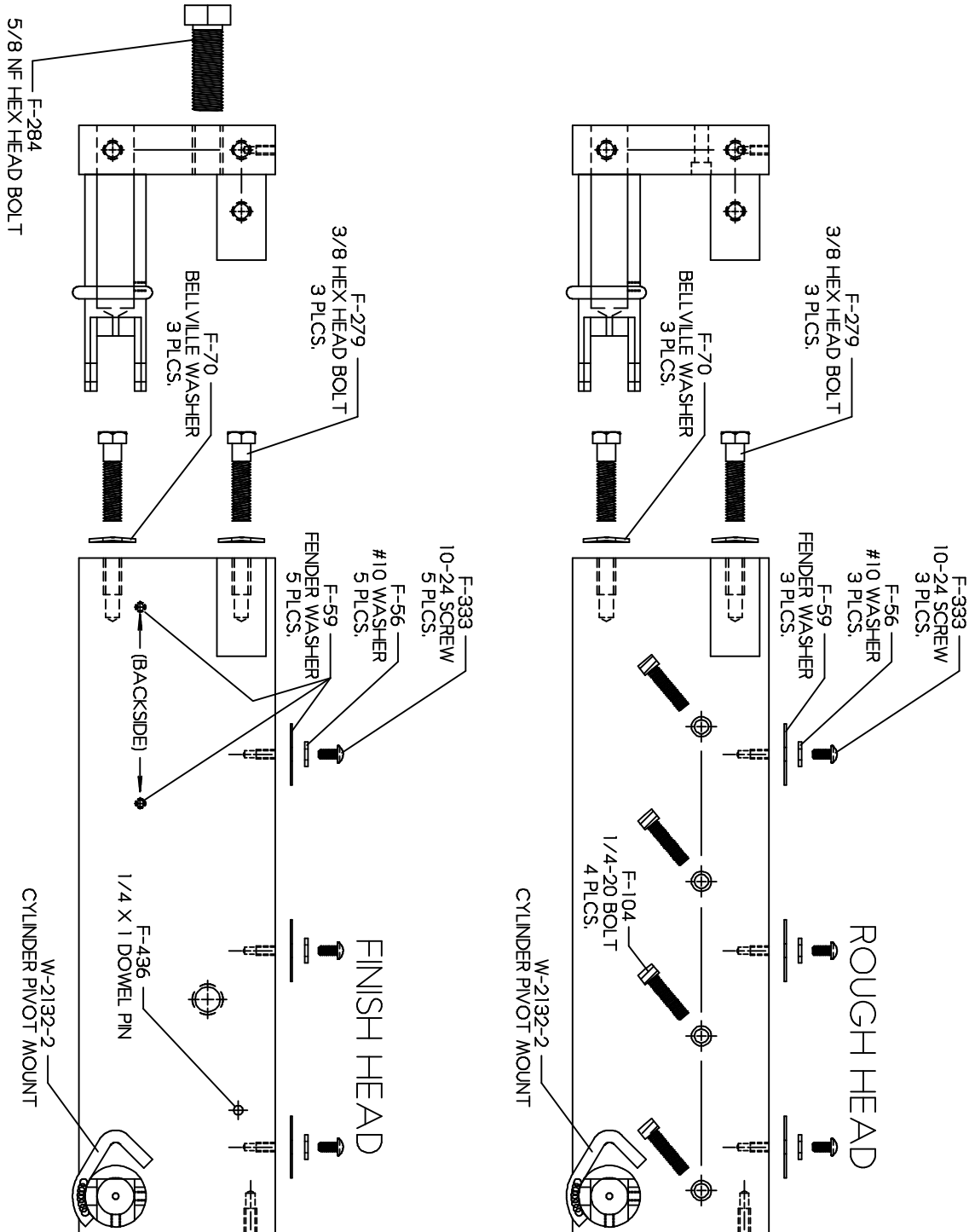
GRIND HEAD ARM ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
8	F-56	#10 WASHER
8	F-59	FENDER WASHER
6	F-70	BELLEVILLE WASHER
4	F-104	1/4-20 CAP SCREW
6	F-279	3/8-16 HEX HEAD BOLT
1	F-284	5/8 UNF HEX HEAD BOLT
8	F-333	10-24 CAP SCREW
1	F-436	1/4 X 1 DOWEL PIN
2	W-2132-2	CYLINDER PIVOT MOUNT



W-1904 QUAD DUAL SIDE GRINDER

GRIND HEAD ARM ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

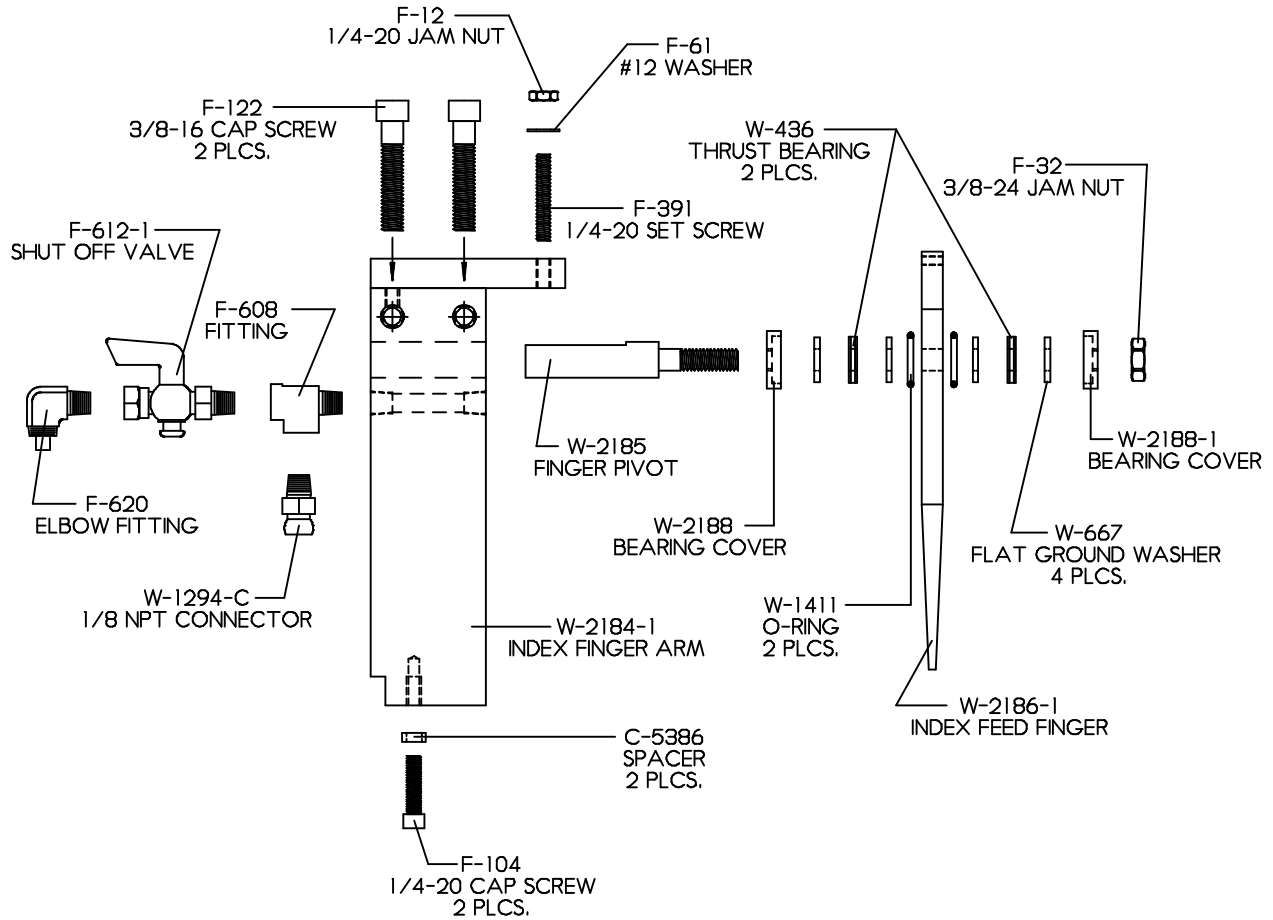
FEED FINGER ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
2	C-5386	SPACER
1	F-12	1/4-20 JAM NUT
1	F-32	3/8-24 JAM NUT
1	F-61	#12 WASHER
2	F-104	1/4-20 CAP SCREW
2	F-122	3/8-16 CAP SCREW
1	F-391	1/4-20 SET SCREW
1	F-608	FITTING
1	F-612-1	SHUT OFF VALVE
1	F-620	ELBOW FITTING
2	W-436	THRUST BEARING
4	W-667	FLAT GROUND WASHER
1	W-1294-C	1/8 N.P.T. CONNECTOR
2	W-1411	O-RING
1	W-2184-1	INDEX FINGER ARM
1	W-2185	FINGER PIVOT
1	W-2186-1	INDEX FEED FINGER
1	W-2188	BEARING COVER
1	W-2188-1	BEARING COVER



W-1904 QUAD DUAL SIDE GRINDER

FEED FINGER ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

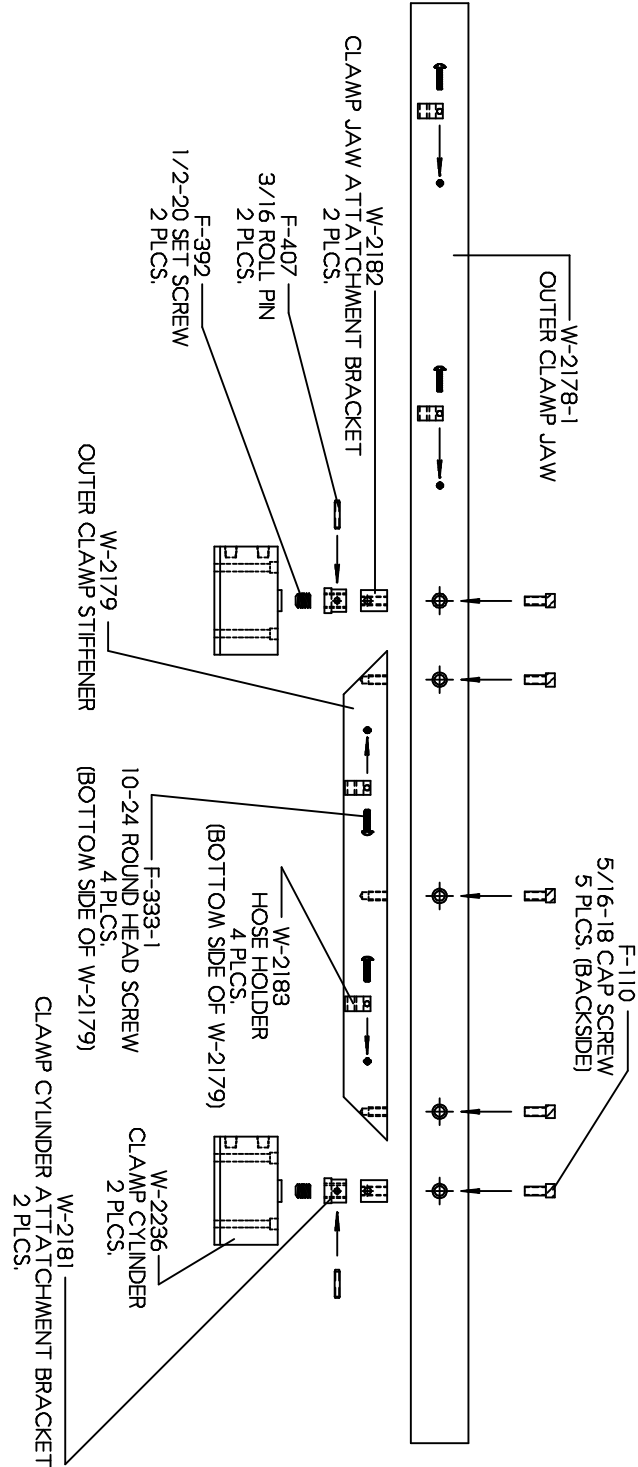
CLAMP ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
5	F-110	5/16-18 CAP SCREW
2	F-392	1/2-20 SET SCREW
4	F-333-1	10-24 ROUND HEAD SCREW
2	F-407	3/16 ROLL PIN
1	W-2178-1	OUTER CLAMP JAW
1	W-2179	OUTER CLAMP STIFFENER
2	W-2181	CLAMP CYLINDER ATTACHMENT BRACKET
2	W-2182	CLAMP JAW ATTACHMENT BRACKET
4	W-2183	HOSE HOLDER
2	W-2236	CLAMP CYLINDER



W-1904 QUAD DUAL SIDE GRINDER

TOP VIEW OF CLAMP ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

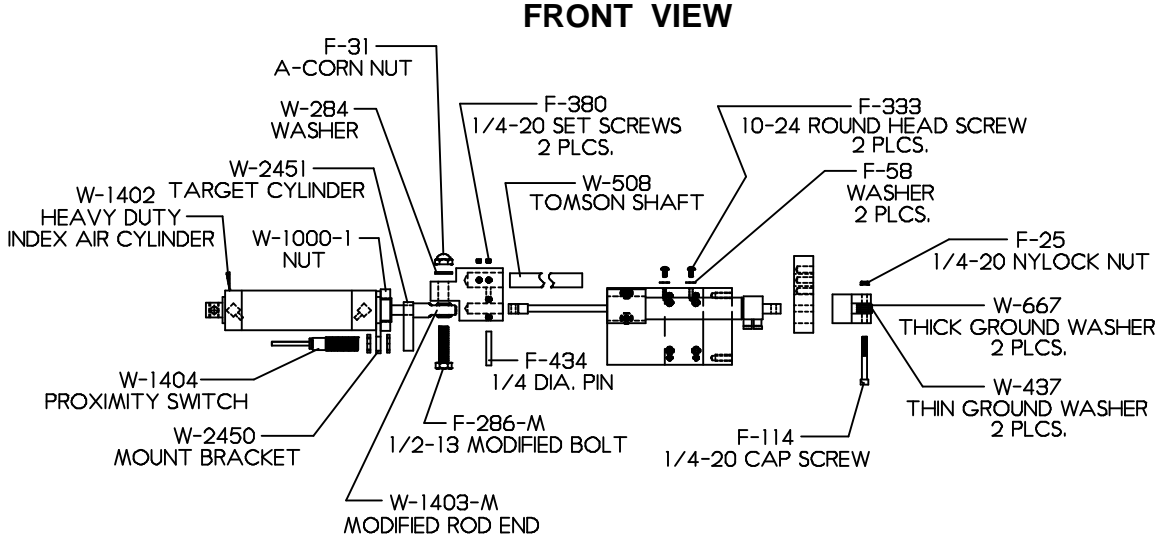
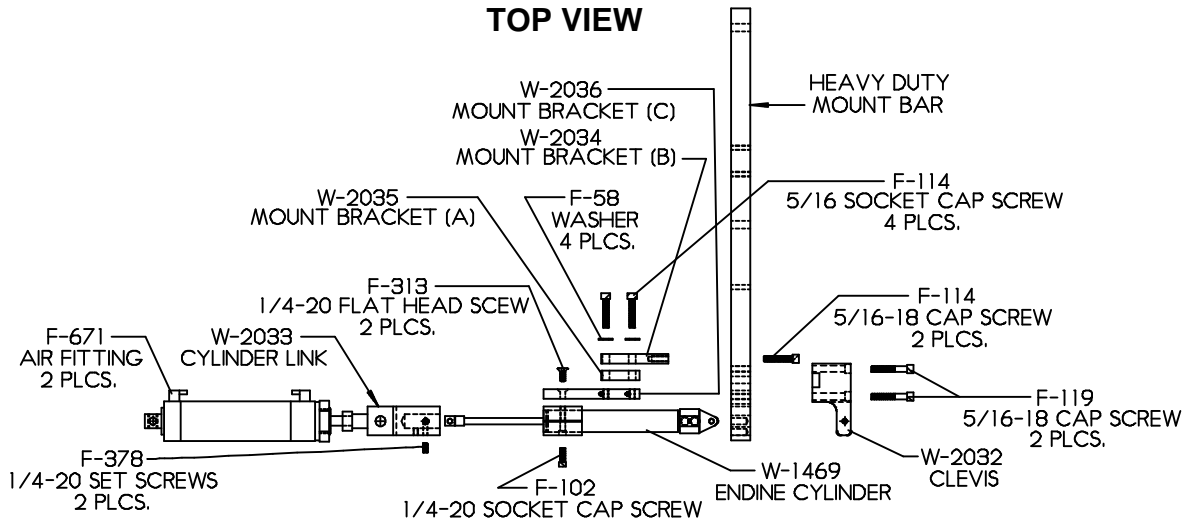
INDEX ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-25	1/4-20 NYLOCK NUT
1	F-31	1/2-13 ACORN NUT
6	F-58	WASHER
1	F-102	1/4-20 CAP SCREW
7	F-114	5/16-18 CAP SCREW
2	F-119	5/16-18 CAP SCREW
1	F-268-M	1/2-13 BOLT (MODIFIED)
2	F-313	1/4-20 FLAT HEAD SCREW
2	F-333	10-24 SCREW
2	F-378	1/4-20 SET SCREW
2	F-380	1/4-20 SET SCREW
1	F-434	1/4 DIA. PIN
2	F-671	AIR FITTING
1	W-284	WASHER
1	W-508	TOMSON SHAFT
1	W-1000-1	NUT
1	W-1402	HEAVY DUTY INDEX AIR CYLINDER
1	W-1404	PROXIMITY SWITCH
1	W-1469	ENDINE CYLINDER
1	W-2032	CLEVIS
1	W-2033	CYLINDER LINK
1	W-2034	MOUNT BRACKET (B)
1	W-2035	MOUNT BRACKET (A)
1	W-2036	MOUNT BRACKET (C)
1	W-2450	MOUNT BRACKET
1	W-2451	TARGET CYLINDER



W-1904 QUAD DUAL SIDE GRINDER

INDEX ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

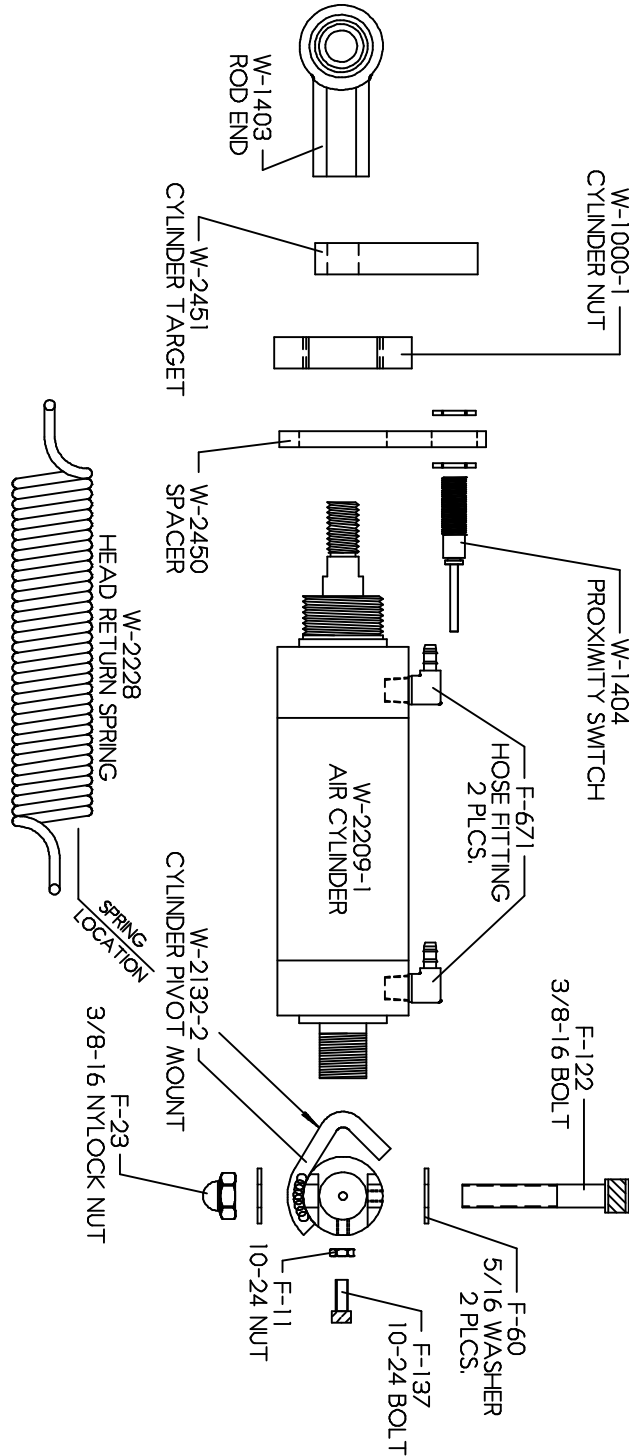
INDEX CYLINDER ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-23	3/8-16 NYLOCK NUT
1	F-11	10-24 NUT
2	F-60	5/16 WASHER
1	F-122	3/8-16 BOLT
1	F-137	10-24 BOLT
2	F-671	HOSE FITTING
1	W-1000-1	CYLINDER NUT
1	W-1403	ROD END
1	W-1404	PROXIMITY SWITCH
1	W-2132-2	CYLINDER PIVOT MOUNT
1	W-2209-1	AIR CYLINDER
1	W-2228	HEAD RETURN SPRING
1	W-2450	SPACER
1	W-2451	CYLINDER TARGET



W-1904 QUAD DUAL SIDE GRINDER

INDEX CYLINDER ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

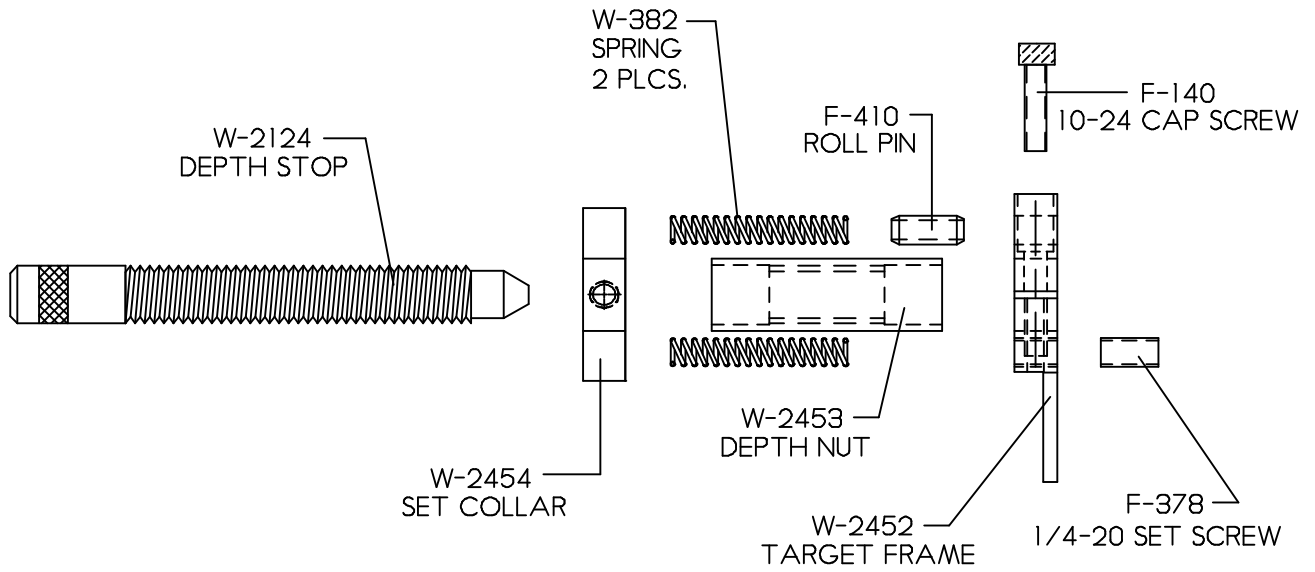
FEED LIMIT ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	F-140	10-24 CAP SCREW
1	F-378	1/4-20 SET SCREW
2	F-382	SPRING
1	F-410	ROLL PIN
1	W-2124	DEPTH STOP
1	W-2452	TARGET FRAME
1	W-2453	DEPTH NUT
1	W-2454	SET COLLAR



W-1904 QUAD DUAL SIDE GRINDER

FEED LIMIT ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

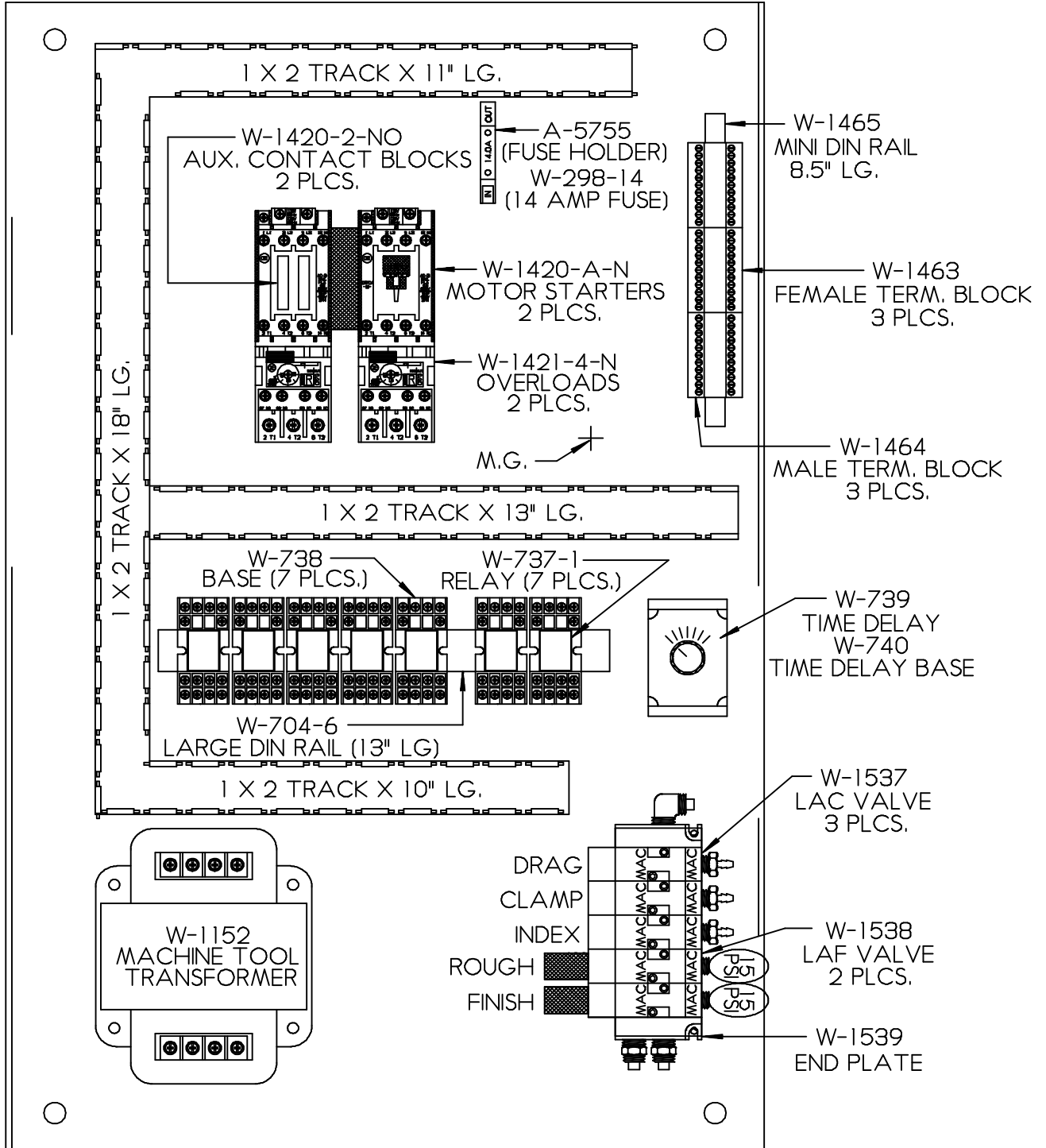
SUB PANEL ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
1	A-5755	FUSE HOLDER
2	F-11	10-24 NUT
18	F-56	#10 SAE WASHER
18	F-333	10-24 X 3/8 SCREW
1	F-337	10-24 X 1-1/4 SCREW
2	F-345	8-32 X 3/8 SCREW
2	F-357	10-24 X 1-1/2 SCREW
1	W-298-14	14 AMP FUSE
1	W-2202-Q	SHEET METAL PANEL
7	W-737-1	RELAY W/LIGHT
7	W-738	RELAY BASE
13"	W-704-6	LARGE DIN RAIL
1	W-739	TIME DELAY
1	W-740	TIME DELAY BASE
1	W-1152	MACHINE TOOL TRANSFORMER
52"	W-1446	1" X 2" SLA TRACK
2	W-1420-2-NO	AUX. CONTACT BLOCK
2	W-1420-A-N	MOTOR STARTER
2	W-1421-4-N	OVERLOAD
3	W-1463	FEMALE TERMINAL BLOCKS
3	W-1464	MALE TERMINAL BLOCK
8.5"	W-1465	MINI DIN RAIL
3	W-1537	LAC VALVES
2	W-1538	LAF VALVES
1 SET	W-1539	END PLATE



W-1904 QUAD DUAL SIDE GRINDER

SUB PANEL ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

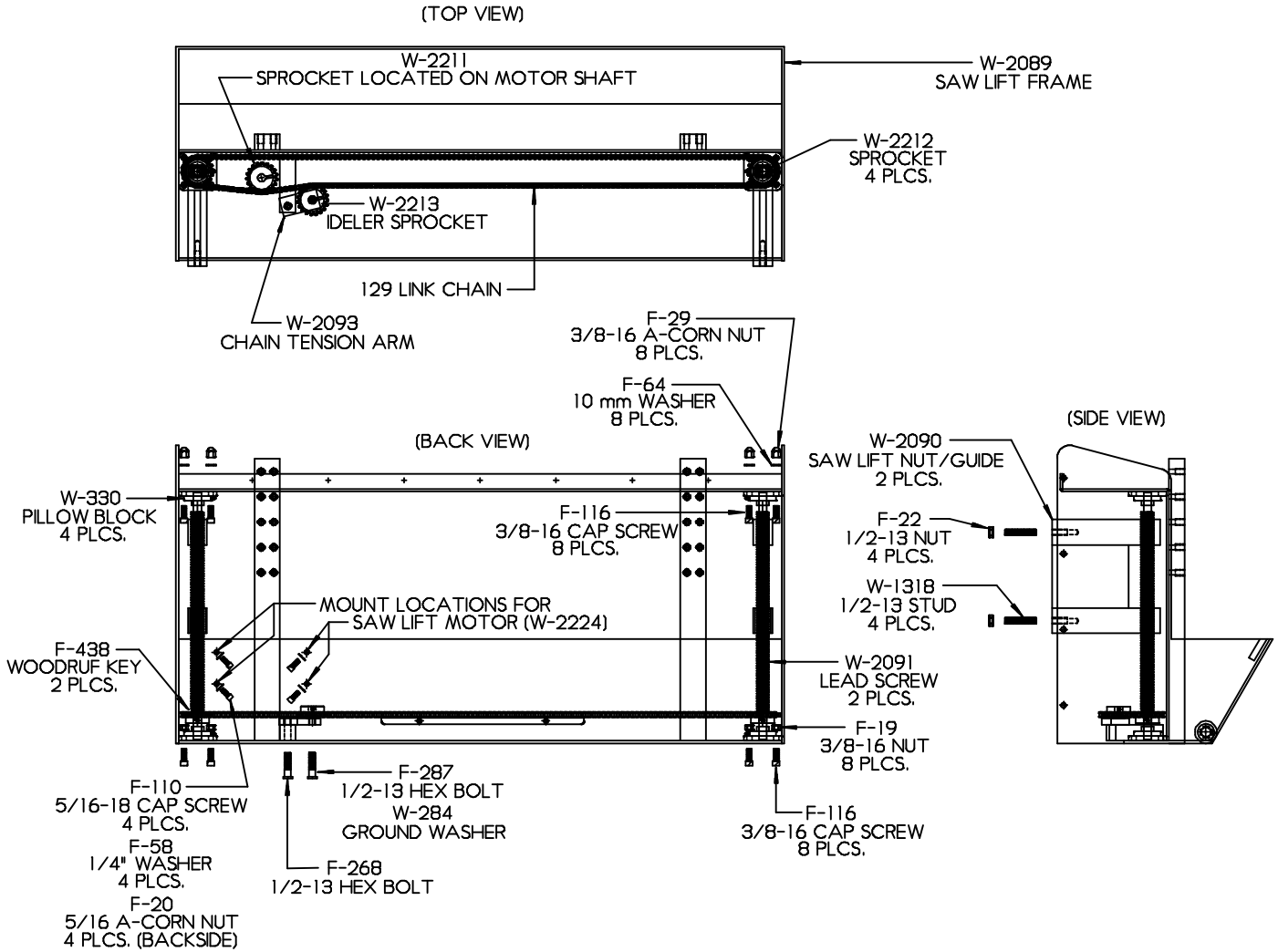
SAW LIFT ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
8	F-19	3/8-16 NUT
4	F-20	5/16-18 A-CORN NUT
4	F-22	1/2-13 NUT
8	F-29	3/8-16 A-CORN NUT
4	F-58	1/4" WASHER
4	F-110	5/16-18 CAP SCREW
16	F-116	3/8-16 CAP SCREW
1	F-268	1/2-13 HEX BOLT
1	F-287	1/2-13 HEX BOLT
8	F-64	10mm WASHER
2	F-438	WOODRUF KEY
4	W-284	GROUND WASHER
4	W-330	5/8 BORE PILLOW BLOCK
4	W-1318	1/2-13 STUD
1	W-2089	SAW LIFT FRAME
2	W-2090	SAW LIFT NUT/GUIDE
2	W-2091	LEAD SCREW
1	W-2093	CHAIN TENSION ARM
1	W-2211	DRIVE SPROCKET
4	W-2212	SPROCKET
1	W-2213	IDELER SPROCKET
1	W-2224	SAW LIFT DRIVE MOTOR



W-1904 QUAD DUAL SIDE GRINDER

SAW LIFT ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

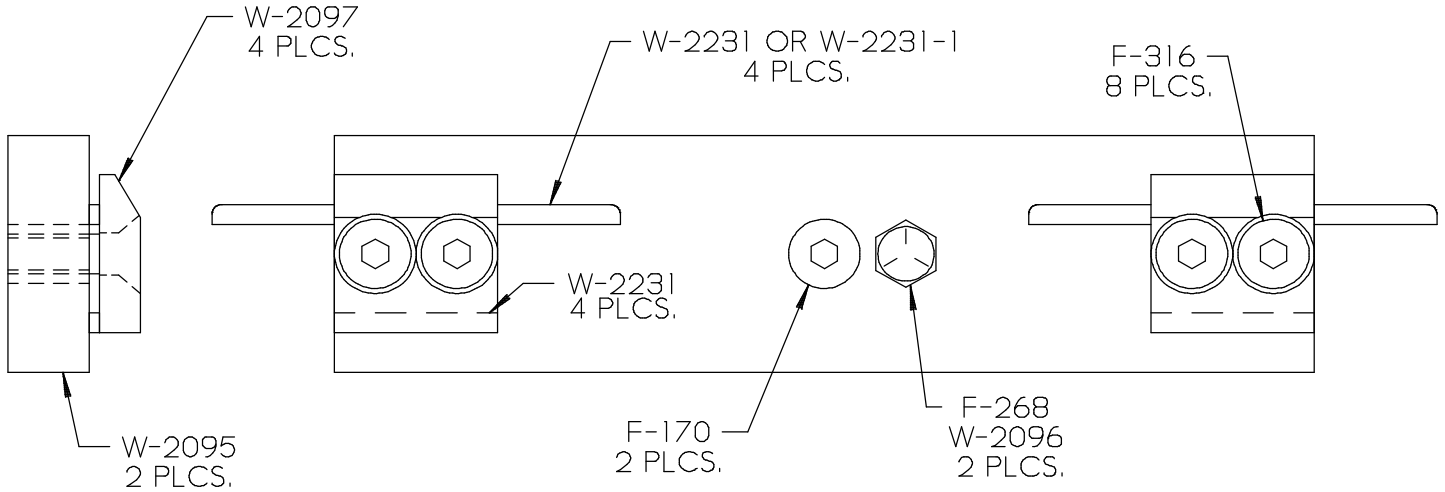
SAW CARRIER ASSEMBLY

QTY	PART NUMBER	DESCRIPTION
2	F-170	5/8 X 1-1/4 SHOULDER BOLT
2	F-268	1/2-13 HEX HEAD BOLT
8	F-316	1/2-13 FLAT HEAD BOLT
2	W-2095	SAW ATTACH ROCKER
2	W-2096	ROCKER BUSHING
4	W-2097	FRONT SAW GUIDE
4	W-2231	1/8 X 1/4 X 2 CARBIDE BLANK



W-1904 QUAD DUAL SIDE GRINDER

SAW CARRIER ASSEMBLY



W-1904 QUAD DUAL SIDE GRINDER

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W-1904 QUAD DUAL SIDE GRINDER

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