

WEAVER

SAFETY LANE

WJ-132 ALIGNMENT TESTER

PARTS MANUAL

FOR PARTS, PLEASE CONTACT:

Castle EQUIPMENT
COMPANY
 SINCE 1950

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OPERATING INSTRUCTIONS

for

WEAVER AUTOMATIC WHEEL ALIGNMENT TESTERS

Weaver Wheel Alignment Testers are designed to function as a low friction movable section of roadway, free to move sidewise. When the wheels of a vehicle are driven over the wheel plate or plates of these machines, an outward movement of the plates causes the indicating dial of the machine to read "In." This indicates that the wheels will exert a corresponding outward thrust on the road surface. In like manner, if the plates move inward, the dial of the machine reads "Out."

The machine, therefore, provides an extremely accurate instantaneous check of the existing alignment and records any existing side thrust, in feet of side-slip per mile, exerted by the wheels on a road surface.

EFFECT OF CAMBER

Positive Camber in wheels exerts an inward thrust on the road surface and on the Tester plates, exactly like Toe-OUT. Therefore, under such condition the Tester will indicate "OUT" when the wheels are set parallel (Zero Toe). Negative Camber, of course, acts just the reverse, causing the Tester to read "IN."

For many years it has been the practice in the automotive industry of giving just enough Toe-IN to the front wheels of a vehicle to eliminate any side thrust between the wheels and the roadway when the vehicle travels forward. For example, a vehicle having one-half degree Camber in each front wheel might have a specification of 1/18" Toe-IN, whereas a vehicle having a one degree Camber specification would require a proportionately greater amount of Toe-IN. The greater the Positive Camber, the more Toe-IN required, and vice versa. Wheels can be adjusted to zero side-slip condition with speed and extreme accuracy when using the Weaver Alignment Tester.

TO OBTAIN REQUIRED "TOE-IN" TO OFFSET SIDE THRUST OF EXISTING CAMBER

Before making any Tie Rod adjustment, any loose or worn parts should be tightened or replaced. Camber should be at, or near factory specifications. Tires should be inflated to proper pressure.

If the dial reads "IN" when the vehicle is driven forward over the machine, the Tie Rod or Rods should be adjusted to reduce Toe-IN. This operation should be repeated until a zero reading is obtained for complete forward travel of wheels over the Tester. Likewise, if the dial reads "OUT," the Tie Rod should be adjusted to increase Toe-IN, until Zero reading is obtained. (Note: Wheels having high positive Camber when set to zero side-slip for forward travel will show large "OUT" readings on backward travel. This is of no consequence since forward travel is the major concern.)

The Weaver Wheel Alignment Tester will check rear wheel alignment as well as front wheels.

Variable Alignment Tester readings on repeat tests for either front or rear wheels indicate looseness in wheel bearings, king pins, or Tie Rod linkage.

PORTABLE WHEEL ALIGNMENT TESTER

1. Select a level floor on which to use the Tester. An uneven or out of level floor may cause the vehicle to drift sidewise and produce errors in the readings. Humps or hollows in the floor tend to cause bind in the Tester.

2. Place the Tester two or three feet in front of either front wheel with indicating scale to the outside. The wheel must roll lengthwise over the plate.

3. Move the vehicle slowly so the wheel rolls over the full length of the plate. Care must be used to avoid any side thrust that might produce an erroneous reading. Note maximum reading which indicates total existing side-slip.

SERVICE

Reasonable care should be exercised to keep your Wheel Alignment Tester in good operating condition. The wheel plates must be level. All linkage, bearings, and other movable parts must be periodically cleaned and lubricated to insure the testing machine's continued accuracy. The wheel plate return centering spring should be adjusted to provide just enough tension to assure positive centering of the wheel plate or plates, and at the same time allow free and easy side movement.

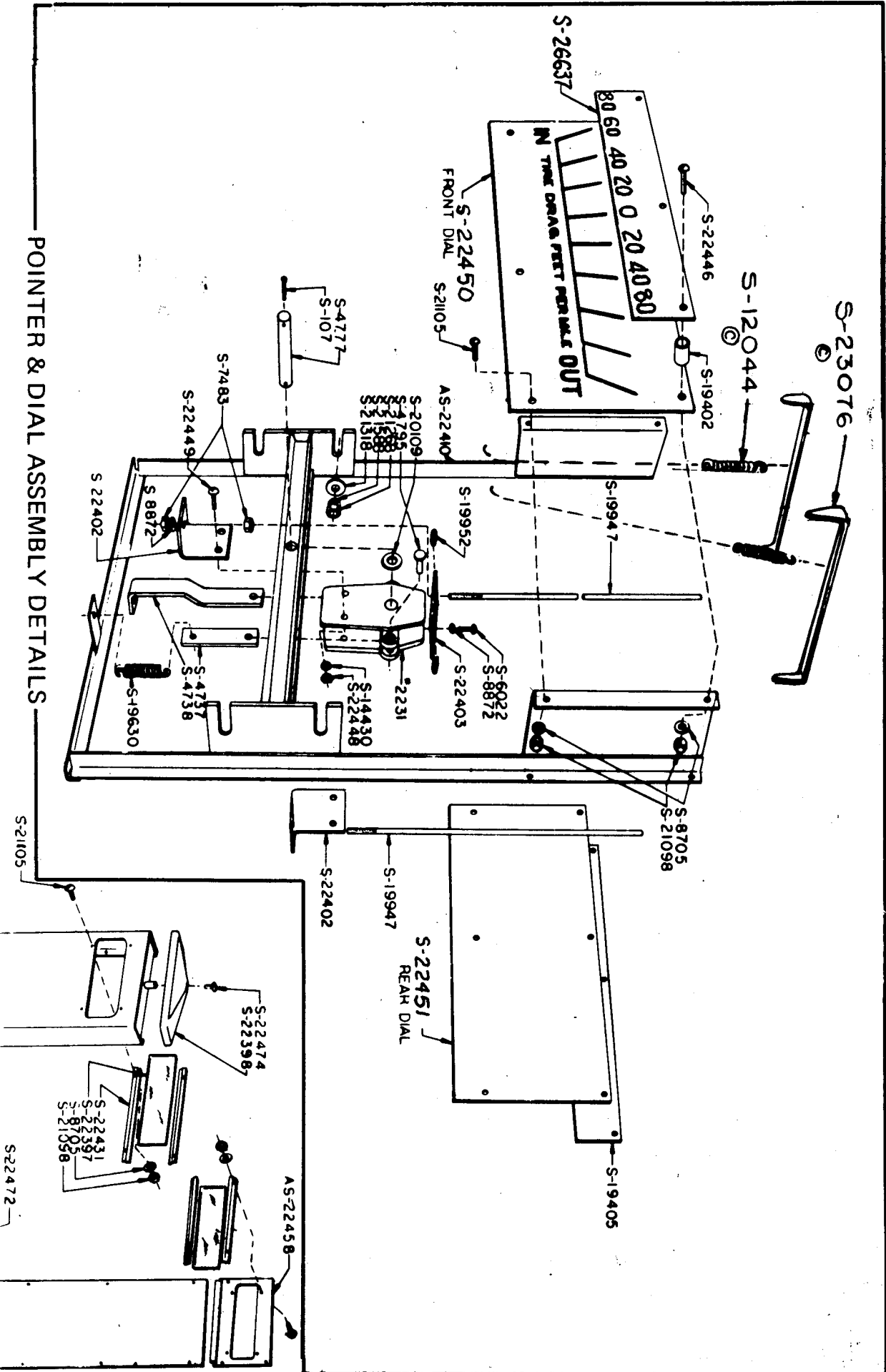


REPAIR PARTS LIST WJ-132A WHEEL ALIGNMENT TESTER

ORDER ALL PARTS BY PART NUMBER

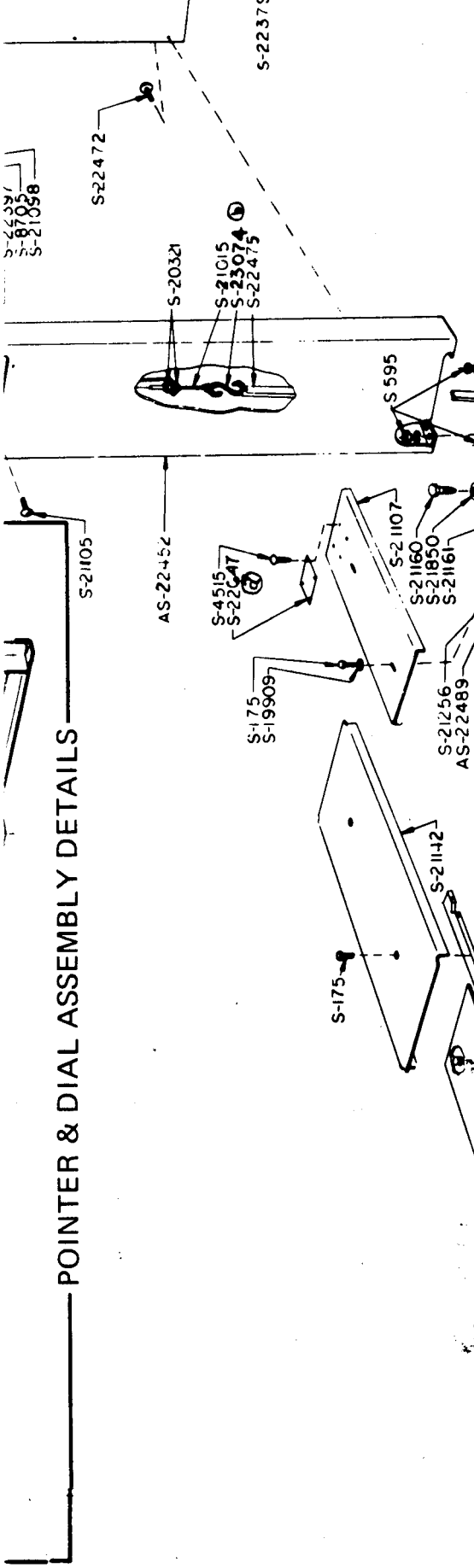
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POINTER & DIAL ASSEMBLY DETAILS

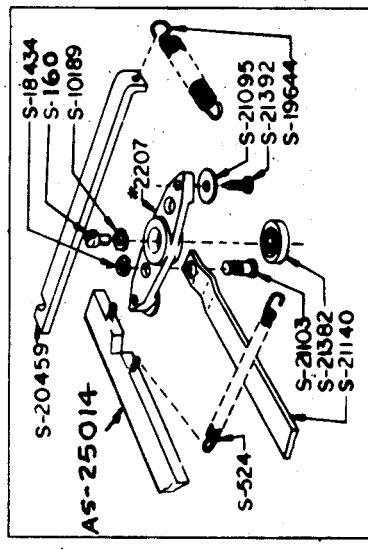
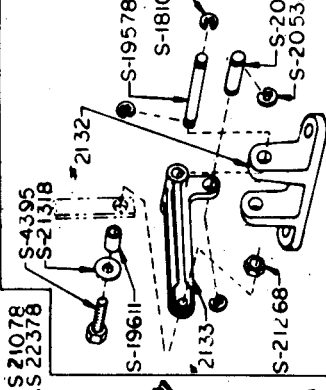


WHEEL ALIGNMENT

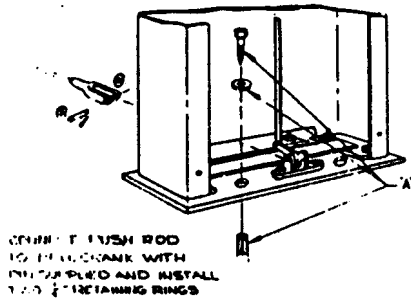
POINTER & DIAL ASSEMBLY DETAILS



BELLCRANK DETAIL



EQUALIZER LINKAGE DETAILS



COLUMN BASE PLATE DETAIL

FOR ACCESS TO BELLCRANK AND BASEPLATE, REMOVE LOWER BACK PANEL OF COLUMN

REMOVE BLOCKING MATERIAL HOLDING VERTICAL LINK RIGGED TO PROTECT POINTER ASSY. FROM DAMAGE DURING SHIPPING.

CAPSCREW (3/8-16-3/4)

CAPSCREW (3/8-16) WASHER

GREASE MUST BE APPLIED TO UNPAINTED BEARING SURFACE ON UNDERSIDE OF WHEEL PLATE PERIODICALLY

LUBRICATE ROLLERS AND ROLLER RACES BEFORE ASSEMBLING WHEEL PLATES

CONNECT ARM HERE WITH 1/2" RETAINING RING

CONNECT LINK HERE WITH 3/8" RETAINING RINGS

J-TYPE NUT RETAINER

WASHER

LAG SCREW (3/8-12)

NOTE! THIS END TO FACE COLUMN

CAPSCREW (3/8-16-1/2) BOLT ALL LOCKWASHER STEEL EXPANSION SHIELD PLATES TO THE LAG TO

GREASE THIS AREA (EACH SIDE OF BEARING GUIDE HAYS-FOUR PER WHEEL PLATE)

1/2" TOOTH LOCKWASHER

CAPSCREW (3/8-16-1/2)

LAG SCREW (3/8-2") WASHER STEEL EXPANSION SHIELD

TYPICAL 16 PLACES MARKED "A"

END COVER (SHIM UNDERNEATH IF NECESSARY TO MAINTAIN MIN. OF 1/16" TO FACE OF WHEEL PLATE)

PLASTIC ANCHOR WASHER CAPSCREW (3/8-16-3/4)

CONNECT STOP PLATES TO EQUALIZE IN CENTER

REV	DESCRIPTION	DATE
1	WJ-132 A	1
2	REVISIONS	MACHINE
3		BY

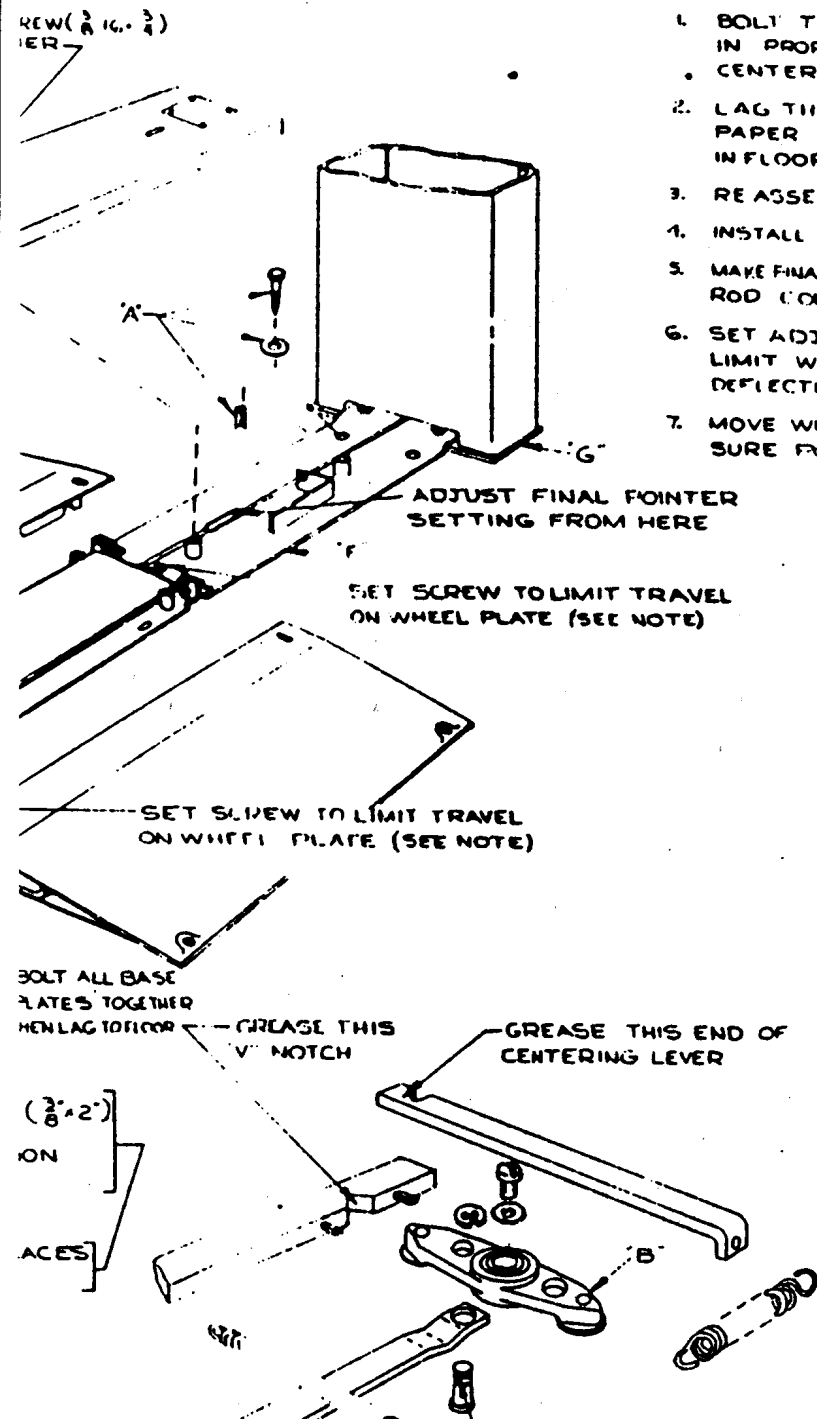
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TO DISASSEMBLE WHEEL PLATE ASSY.:

1. UNBAND WHEEL PLATE ASSEMBLY (TWO) - KEEPING ASSEMBLY SITTING ON FLAT, HORIZONTAL SURFACE
2. LIFT OFF WHEEL PLATE (1), LIFT OUT ROLLER RETAINER FRAME (2) (HOLD LEVEL TO RETAIN ROLLERS AND RIVETS IN FRAME)
3. LIFT OUT TEN ROLLER RACES IN EACH BASE

INSTALLATION INSTRUCTIONS

1. BOLT THE FIVE BASE PLATES (C, D, E, F, G) TOGETHER IN PROPER ORDER SHOWN (NOTE WIRE END OF CENTER BASE PLATE (D) MUST FACE COLUMN)
2. LAG THIS PORTION TO FLOOR (SHIM WITH TAG PAPER OR SIMILAR MATERIAL FOR LOW SPOTS IN FLOOR TO GIVE THE BASE PLATES A FIRM SUPPORT)
3. REASSEMBLE WHEEL PLATES, ETC.
4. INSTALL APPROACH PLATES AND LAG TO FLOOR
5. MAKE FINAL ADJUSTMENT TO ZERO POINTER AT PUSH ROD COUPLING AS SHOWN
6. SET ADJUSTING SCREW ON WHEEL BASE PLATE TO LIMIT WHEEL PLATE TRAVEL. ADJUST SO MAX. WHEEL DEFLECTION IS 35 FEET PER MILE.
7. MOVE WHEEL PLATES IN AND OUT MANUALLY - BE SURE POINTER RETURNS TO ZERO FREELY



REPAIR PARTS LIST WJ-132A WHEEL ALIGNMENT TESTER

ORDER ALL PARTS BY PART NUMBER

PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
S-105	Hex Hd. Capscrew 3/8-16UNC x 1" lg.	AS-21080	Inner Base Plate
S-107	Cotter 1/8 Dia. x 1" lg.	AS-21086	Approach Assembly
S-160	Rd. Hd. Mach. Screw 1/4-20UNC x 3/8" lg.	AS-21094	Equalizer Casting Assembly
S-175	Hex Hd. Capscrew 3/8-16UNC x 3/4" lg.	S-21095	Washer 13/64 I.D. x 1" O.D.
S-524	Plate Arm Spring	S-21098	Hex Nut #6-32UNC
S-595	Hex Nut 3/8-16UNC	S-21101	Retaining Ring
S-1204	Hex Hd. Capscrew 5/16-18UNC x 1" lg.	S-21103	Equalizer Stop Pin
S-1236	Sq. Hd. Set Screw 5/16-18UNC x 1" lg.	S-21104	Plate Roller
S-1325	Lockwasher 3/8 MED.	S-21105	Rd. Hd. Mach. Screw #6-32UNF x 3/8" lg.
S-1636	Hex Nut 5/16-18UNC	S-21107	Inner Cover Plate
2132	Bellcrank Bracket	S-21139	Wheel Plate Arm
2133	Bellcrank	S-21140	Connecting Link
2189	End Cover	AS-21141	Center Base Plate
2207	Equalizer Casting	S-21142	Center Cover Plate
2231	Indicator Pivot Bracket	S-21160	Lag Screw 3/8 Dia. x 2" lg.
S-4395	Hex Hd. Capscrew 1/4-20UNC x 1" lg.	S-21161	Expansion Shield
S-4515	Drive Screw #2 x 3/16" lg.	S-21172	J Type Nut Retainer
S-4737	Spring Coupling		
S-4738	Coupling	S-21256	Hex Nut 1/4-28UNF
S-4777	Pin	S-21268	Hex Nut 1/4-20UNC
S-4795	Rivet #30-10/16	S-21318	Flat Washer 9/32 I.D. x 5/8 O.D.
S-5303	Int. Lockwasher 5/16	AS-21377	Water Deflector Sheet
S-6022	Rd. Hd. Mach. Screw 1/8 Dia. x 1/2" lg.	AS-21378	Wheel Plate
S-7483	Hex Nut 10-32UNF	S-21381	Button Hd. Capscrew 5/16-24UNF x 3/8" lg.
S-8705	Lockwasher #6	S-21382	Equalizer Bearing
S-8872	Lockwasher 3/16 MED.	S-21392	Drivescrew #10 x 1/2" lg.
S-10189	Washer	S-21588	Lockwasher 1/4 MED.
S-12044	Spring	S-21850	Washer 1" O.D. x 7/16 I.D.
S-14430	Int. Lockwasher 5/16	AS-22378	Column Base Plate
S-17936	Retaining Ring	S-22379	Bottom Back Panel
S-18102	Retaining Ring	S-22397	Dial Window
S-18434	Retaining Ring	S-22398	Column Cap
S-18501	Anchor	S-22402	Pointer Bracket
S-18502	Lag Screw 5/16 Dia. x 1-3/4" lg.	S-22403	Pointer Support
S-18764	Retaining Ring	AS-22410	Indicator Frame
S-19402	Spacer	S-22431	Plexiglas Retainer
S-19405	Dial Top Plate	S-22446	Rd. Hd. Mach. Screw #6-32 x 7/8" lg.
S-19578	Bellcrank Pin	S-22448	Hex Nut 8-32 NUC
S-19608	Sq. Hd. Set Screw 5/16-18UNC x 1-3/4" lg.	S-22449	Rd. Hd. Mach. Screw #8-32 x 1/2" lg.
S-19611	Vertical Link Pin	S-22450	Front Dial Bottom Plate
S-19630	Pointer Return Spring	S-22451	Rear Dial Bottom Plate
S-19644	Centering Spring	AS-22452	Column Housing
S-19909	Washer 13/16 O.D. x 13/32 I.D. x 1/16 thk.	AS-22458	Top Back Panel
S-19947	Pointer		
S-19952	Pointer Bumper		
S-20109	Washer 11/16 O.D. x 11/32 I.D.	S-22472	Mach. Screw 8-32 x 3/8" lg.
S-20321	Elastic Stop Nut #10-24UNC	S-22474	Mach. Screw 1/4-20UNC x 1/2" lg.
S-20456	Roller Race	S-22475	Vertical Link
S-20459	Centering Lever	AS-22489	Push Rod and Coupling
S-20461	Rd. Hd. Rivet 3/16 Dia. x 5/8" lg.		
S-20529	Clevis Pin	S-22647	Nameplate
S-20532	Retaining Ring	S-23074	S-Hook
S-21015	Eye Bolt	S-23076	Safety Limit Marker
AS-21062	Wheel Base Plate	AS-25014	Wheel Plate Arm with Cotter
AS-21064	Roller Retainer	S-26637	Dial Top Plate
AS-21078	Push Rod and Clevis Assembly		