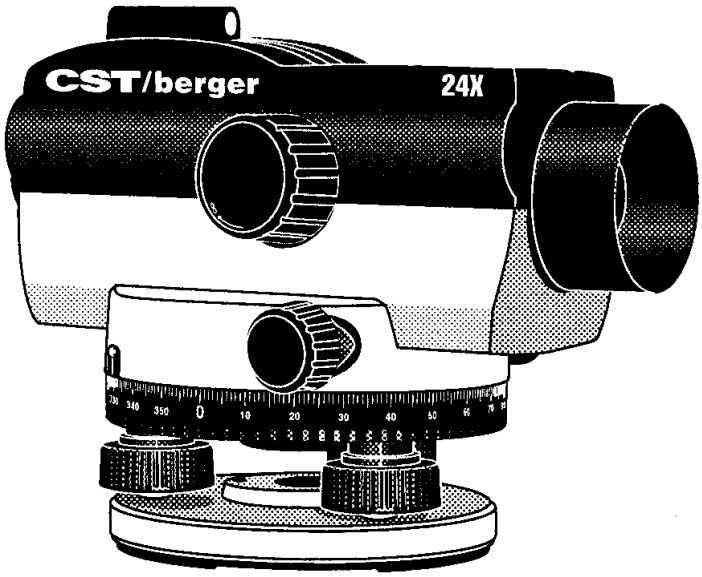
Automatic Level Maintenance Manual

SAL-XX W/ AIR DAMPENED COMPENSATOR



CST/**Berger**

2001

Automatic Level Maintenance Manual

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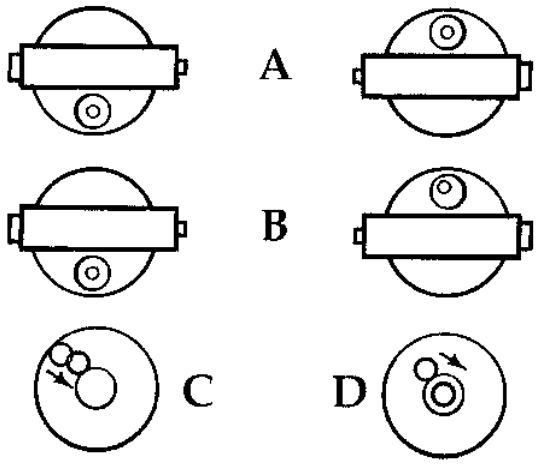
User Calibration and Testing

All CST/berger automatic levels have undergone testing before their sale; however, some changes in bubbles or zero positions may occur due to rough handling during transport or other reasons. Testing and any adjustments should be made before using the level.

Testing the circular bubble

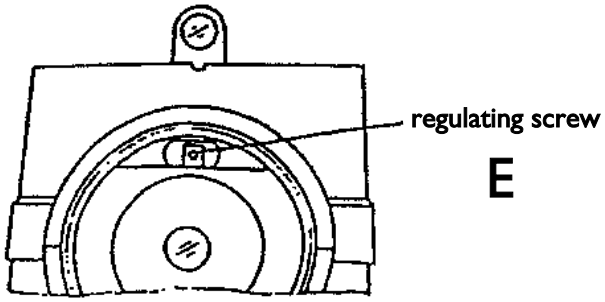
1. Attach auto level to tripod with tripod fastening screw. Turn level screws to center the bubble.
2. Move telescope 180 degrees and see if bubble is in the center position (A).If not, an adjustment is necessary (B).
3. Turn level screw to move bubble to correct the error (halfway to center) (C).
4. Adjust bubble screw with hex key wrench (located in carrying case) to move bubble the rest of the way back to center (D).
5. Repeat steps 2, 3, and 4 until the bubble stays centered.



Collimator Calibration

1. Attach auto level onto the collimator stand. Center circular bubble.
2. Aim the level at collimator to see if horizontal hairs of the level and of the collimator overlap.

3. If there is no overlap, take off cover around eyepiece and adjust screw located on upper part of reticule with adjusting pin (located in carrying case)(E) until horizontal hairs overlap.



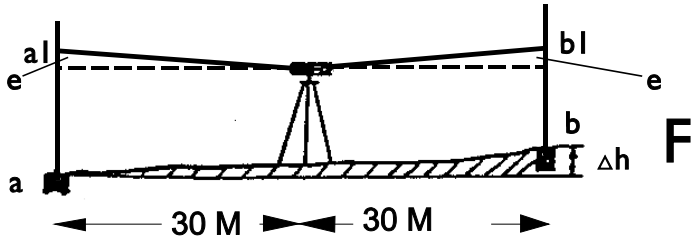
Field Calibration

1. Set level between two staffs as shown in figure F. Level the instrument, reading staff a and b at a1 and b1; the difference in height between staffs a and b is: Îh=a1-b1.

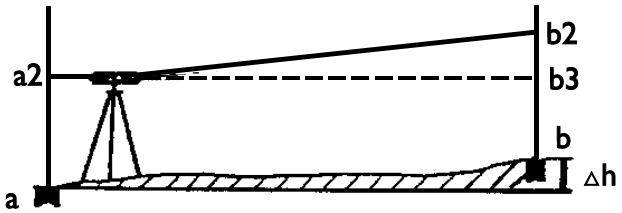
2. Move the level 1-2 meters away from staff a. Level the instrument, reading staff a and staff b at a2 and b2. If a2-b2=a1-b1=Îh, the sight line is horizontal.

3. If the sight line is not horizontal, take the value of Îh as a basis for correcting zero position and correcting the value of h=a2-b2 (G). Aiming at staff b, take off the cover around the eyepiece and adjust the screw (E) on the upper part of reticle with adjusting pin (located in carrying case) until the difference (Îh) is equal to the value of Îh in step 1.

4. Repeat steps 1, 2, and 3 until (a1-b1)=(a2-b2).

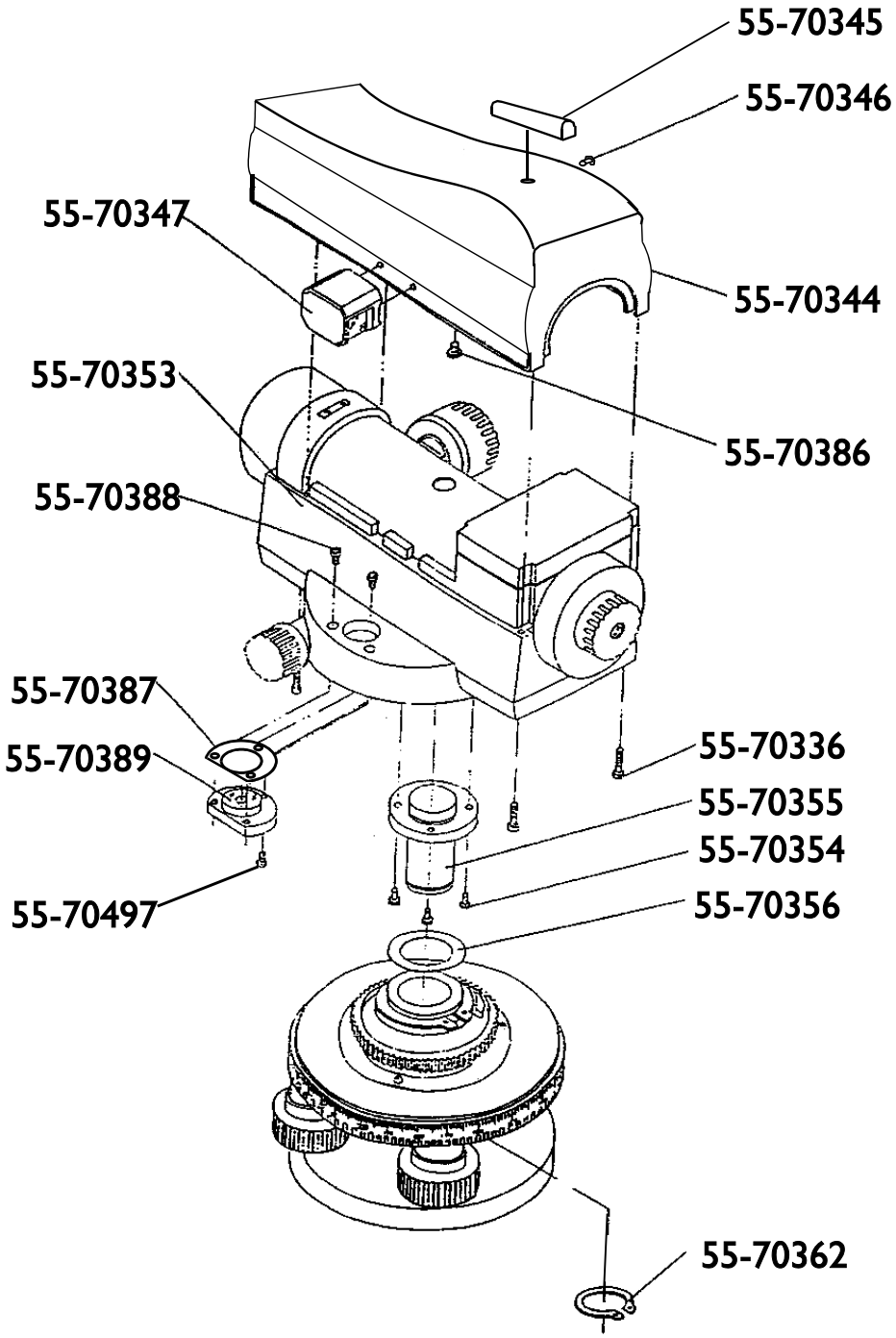


F



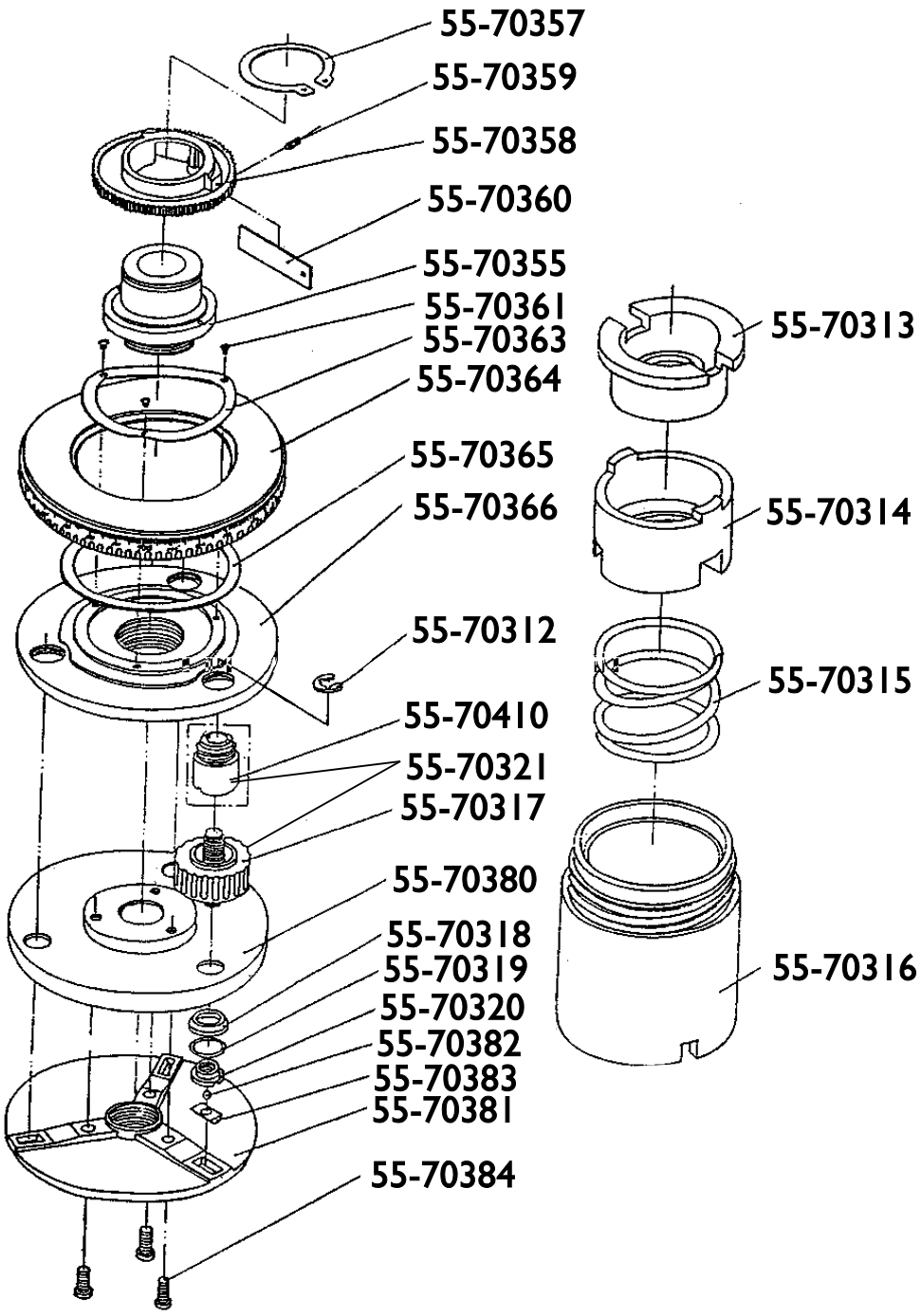
G

diagram H



ASSEMBLY DIAGRAMS

diagram I


55-70357
55-70359
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55-70361
55-70363
55-70364
55-70365
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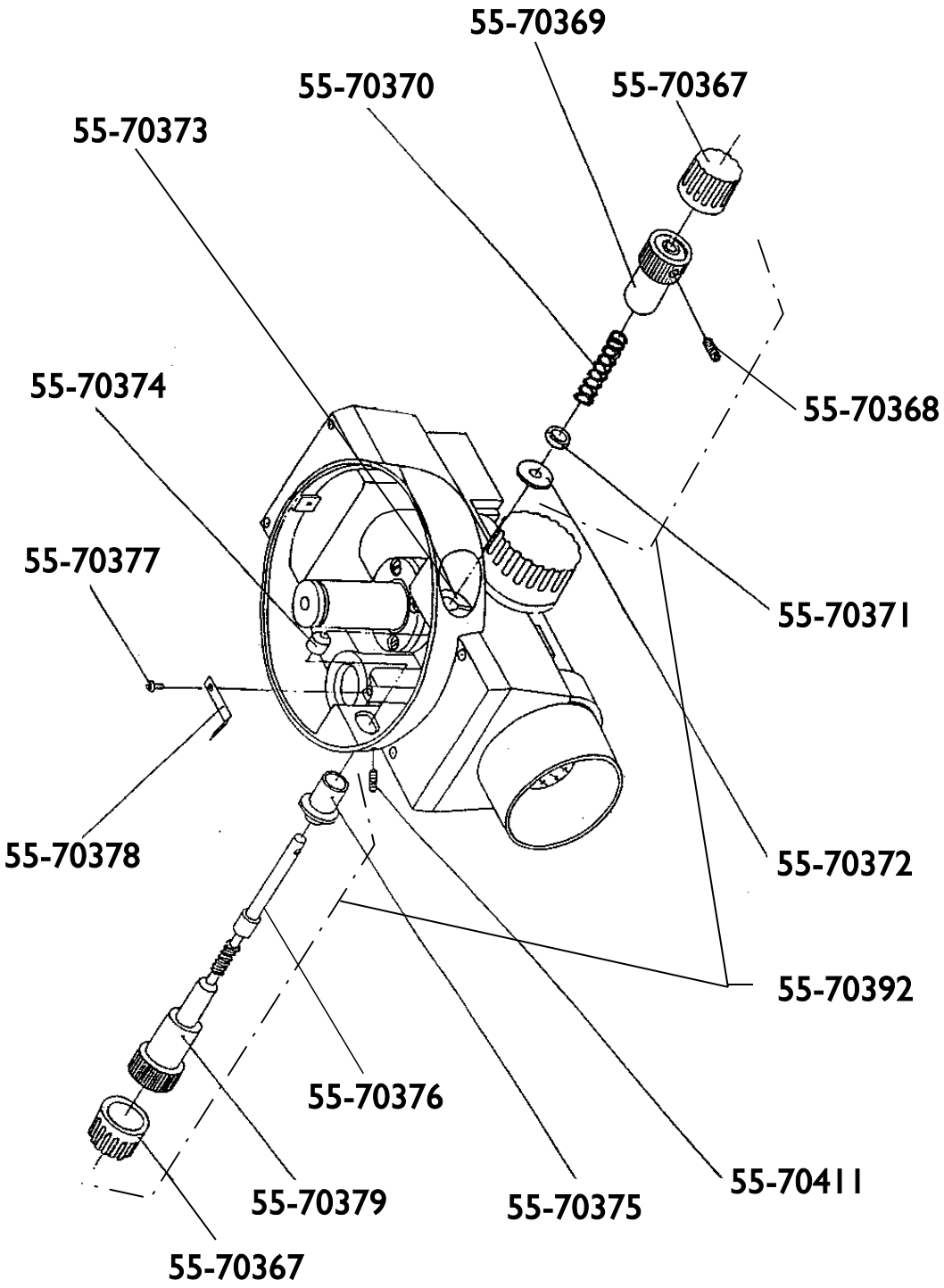
55-70312
55-70410
55-70321
55-70317
55-70380
55-70318
55-70319
55-70320
55-70382
55-70383
55-70381
55-70384
55-70313
55-70314
55-70315
55-70316

diagram J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55-70370
55-70367
55-70373
55-70374
55-70368
55-70377
55-70371
55-70378
55-70372
55-70392
55-70376
55-70379
55-70375
55-70411
55-70367

diagram **K**

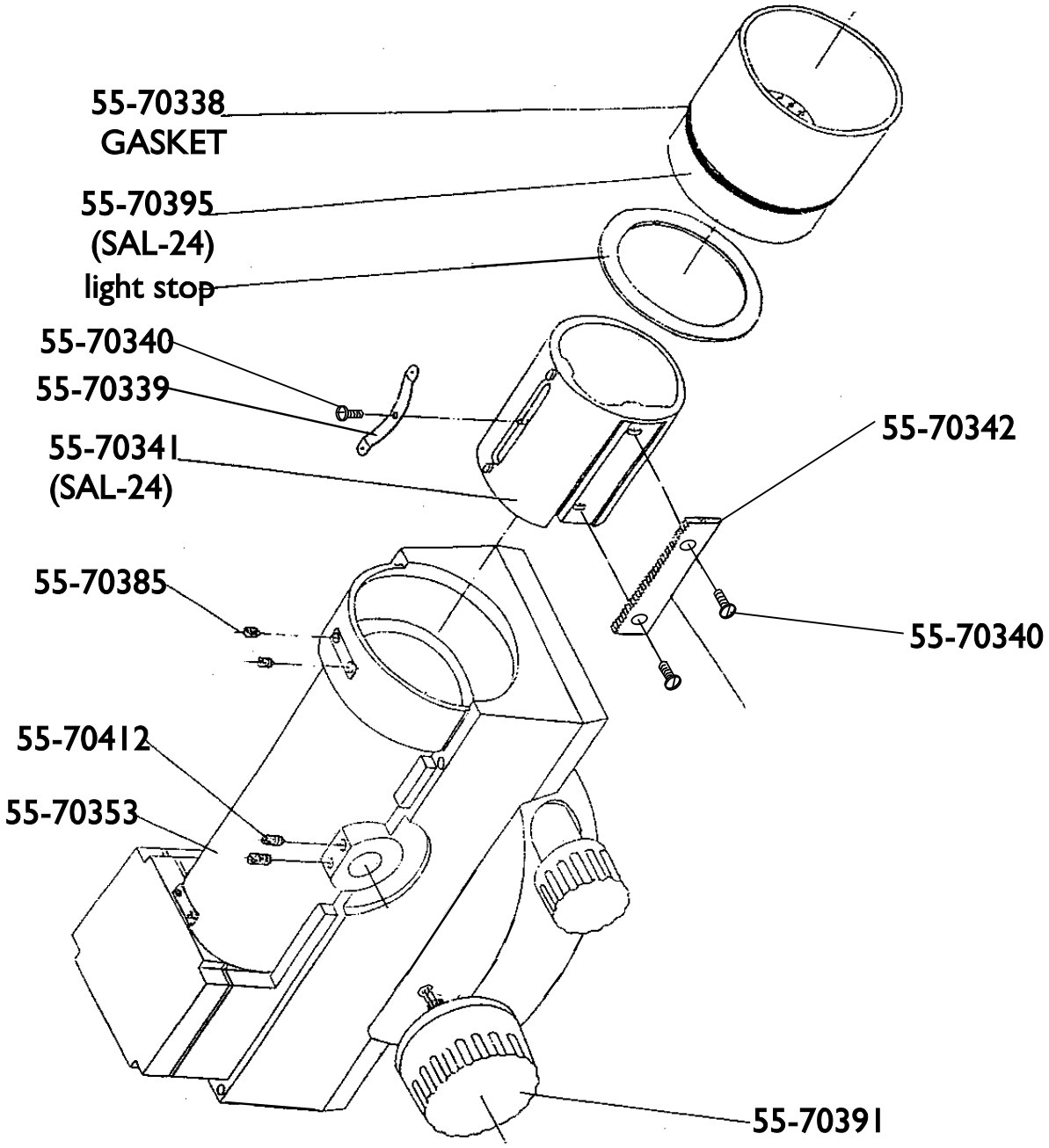

55-70338
GASKET
55-70395
(SAL-24)
light stop
55-70340
55-70339
55-70341
(SAL-24)
55-70342
55-70385
55-70340
55-70412
55-70353
55-70391

diagram **L**

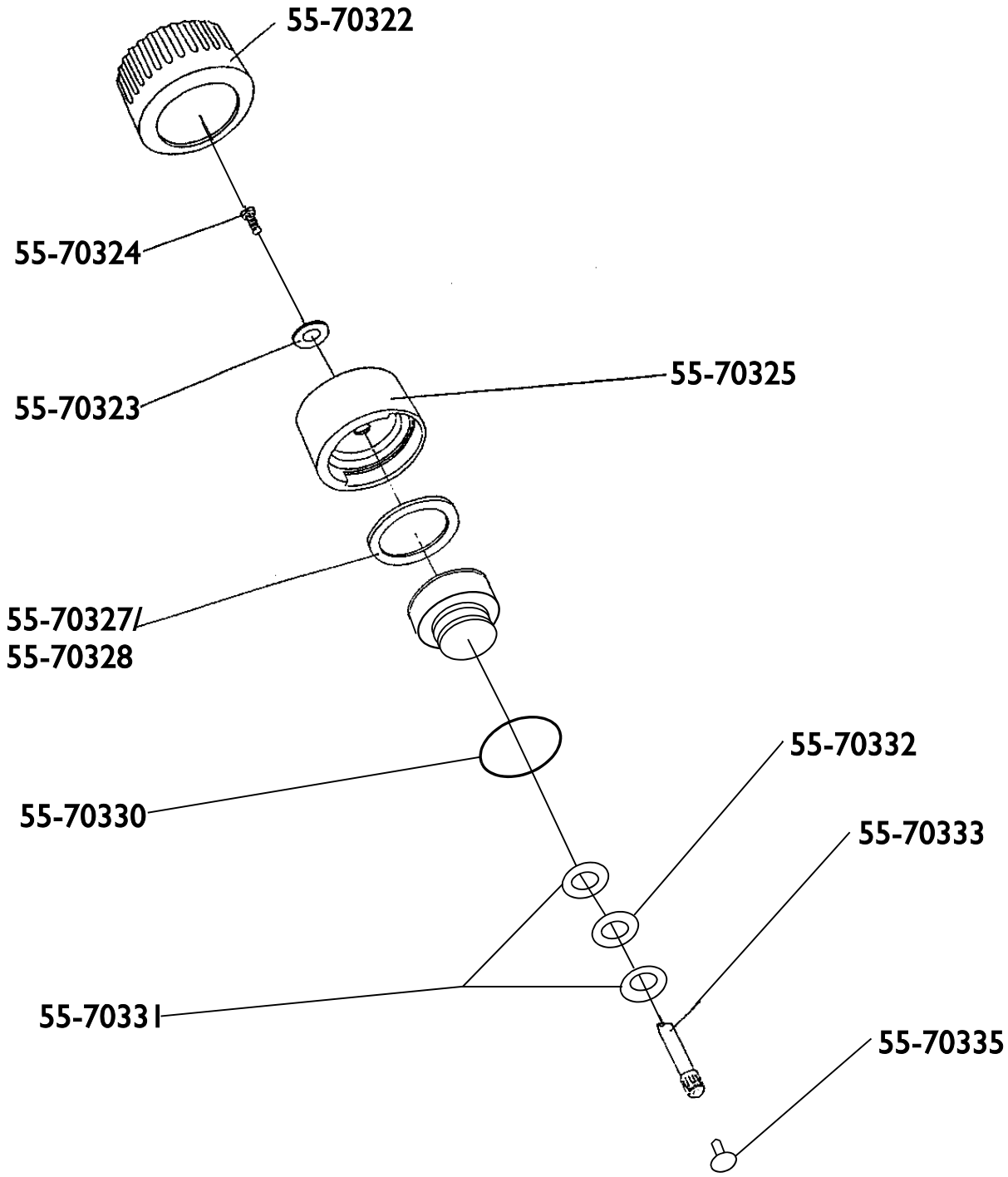

55-70322
55-70324
55-70323
55-70325
55-70327/
55-70328
55-70330
55-70332
55-70333
55-70331
55-70335

diagram M

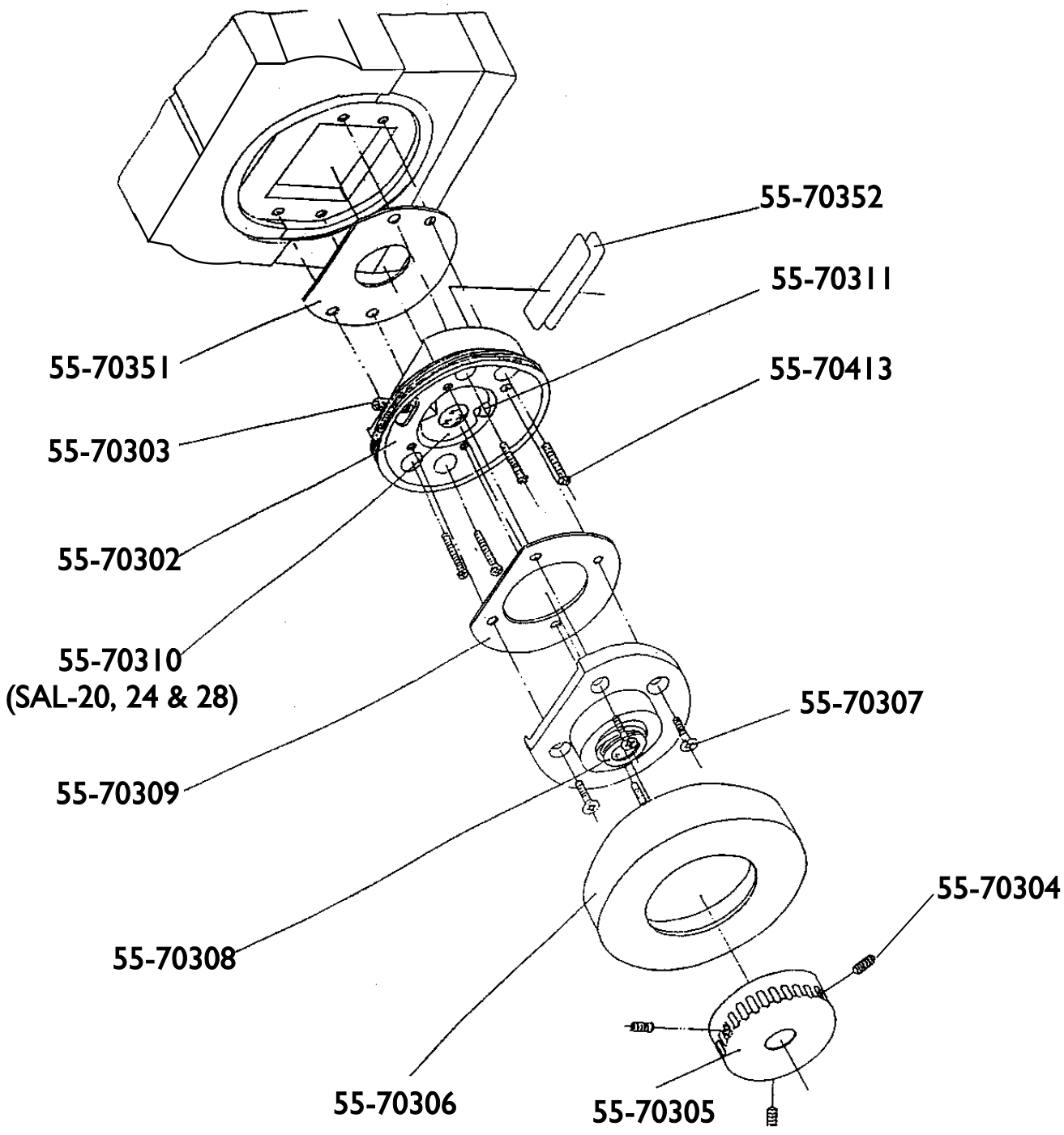
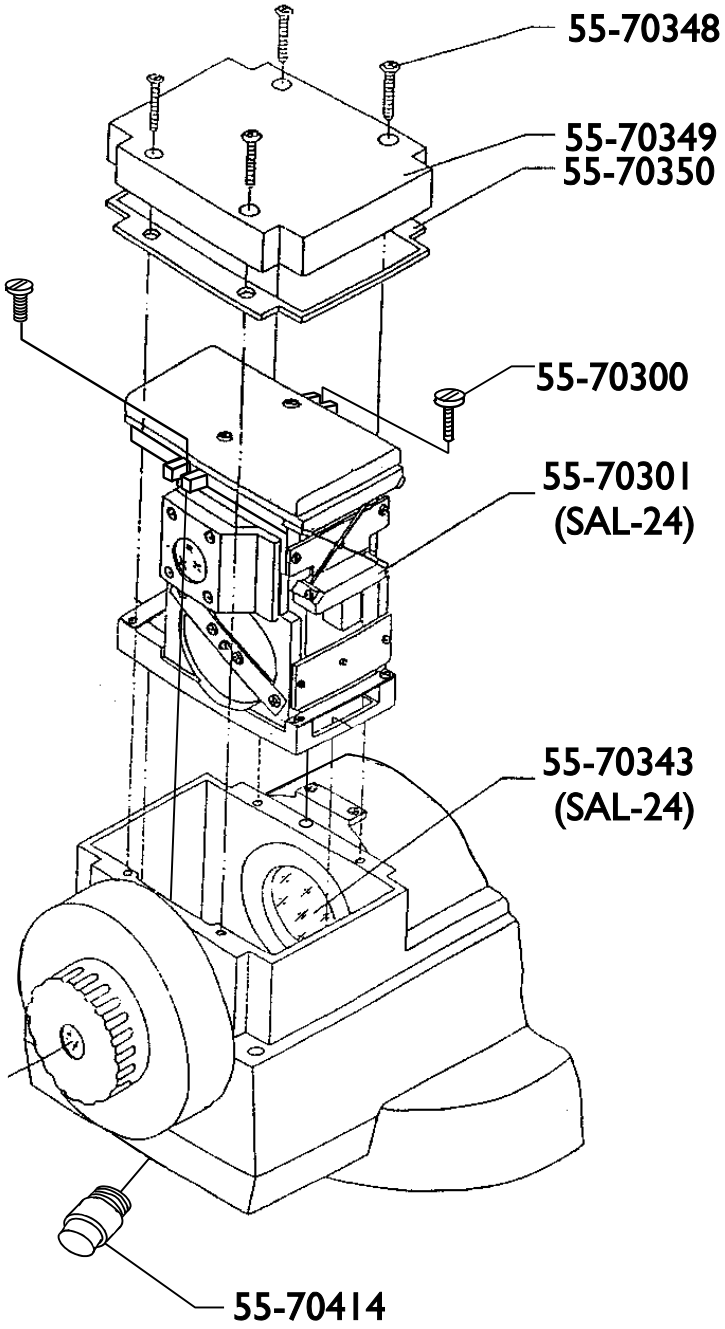

55-70352
55-70311
55-70351
55-70413
55-70303
55-70302
55-70310
(SAL-20, 24 & 28)
55-70307
55-70309
55-70304
55-70308
55-70306
55-70305

diagram **N**


55-70348
55-70349
55-70350
55-70300
55-70301
(SAL-24)
55-70343
(SAL-24)
55-70414

Repair Procedures

Replacement of Spindle

Refer to parts 55-70355 (inner and outer spindle set) in diagram H.

Dismantling

1. Remove snap ring for inner spindle 55-70362 (diagram H) with bent-tip snap ring pliers; take telescope 55-70353 from base by pulling gently and rotating.
2. Remove screws 55-70354 (4 screws) with Phillips-head screwdriver; remove inner spindle.
3. Remove snap ring 55-70357 (diagram I) with snap ring pliers; remove gear 55-70359 and spring 55-70360.
4. Remove screws 55-70361 (3 screws) with Phillips-head screwdriver; remove retaining ring 55-70363, circle 55-70364, and friction washer 55-70365.
5. Heat outer spindle 55-70355 on electric stove (with upper end in contact with stove); heat no higher than 80EC (112EF). Turn outer spindle counterclock-wise off base 55-70366 with spanner wrench going through two (2) holes.

Assembling

Check parts, and replace those that are worn out. Assemble in reverse order of diagrams H and I with attention to the following:

1. Before assembling outer spindle 55-70355, some thread locking adhesive should be applied to the threads; then screw outer spindle 55-70355 into connecting base 55-70366. Make sure the end of the spindle is tight against the connecting base.
2. Apply specialized lubricating grease underneath end of retaining ring 55-70363.
3. After tightening screws 55-70361, check if circle 55-70364 turns easily. Fix and seal screws 55-70361 with anaerobic glue (the glue should not touch any painted surfaces or plastic parts).
4. Before assembling gear 55-70358, specialized lubricating grease should be applied to the outer surface of the spindle that touches gear.

5. Gear 55-70358 should be stable and moveable around spindle. Adjust screw 55-70359 to generate proper tension on the gear rotating around the spindle.
6. Clean the surfaces of the spindle; apply grease specialized for these surfaces.

7. Referring to diagram H, onto base place Teflon bearing disc 55-70356, then telescope body 55-70353. Then install snap ring 55-70362 into the groove of the inner spindle 55-70362.
8. After assembly, refer to page 2 to test and readjust the circular bubble.

Replacement of Circular Vial

See diagram H.

Dismantling

1. Remove snap ring on bottom of inner spindle 55-70362 with bent-tip snap ring pliers. Turn telescope body while pulling gently until it is off the base.
2. Remove screws 55-70388 (2 on upper side) and 55-70497 (1 underneath) with hex key wrench (located in carrying case). Remove circular vial 55-70389 and rubber gasket 55-70387 around it.

Assembling

After replacing the bubble level, assemble in reverse order of diagram H with attention to the following:

1. When attaching bubble level 55-70389 onto telescope body 55-70353, tighten the 55-70497 screw then evenly tighten the other (2) of screws 55-70388. Do not overtighten. Connect telescope to base. Refer to page 2 to test and readjust the circular bubble.
2. If the bubble is out of adjustment, screws 55-70388 must be tightened or loosened as necessary to center the bubble. (Do not over-tighten)
3. Assemble other parts by referring to diagram H. Apply axis grease to the outer circle-shaped surface of the spindle.

Replacement of Level Screws

See diagram I, parts 55-70410 and 55-70317.

Dismantling

1. Remove snap ring 55-70362 for spindle (see diagram H & I) with bent-tip snap ring pliers. Turn telescope body 55-70353 while gently pulling and remove from base.
2. Referring to diagram I, remove snap ring for spindle 55-70357 with snap ring pliers. Remove gear 55-70358 and spring 55-70360.
3. Remove screws 55-70361 (3 screws) with Phillips-head screwdriver. Take off retaining ring 55-70363, circle 55-70364, and friction ring 55-70365.
4. Remove "E" clip 55-70312.
5. Remove screws 55-70384 (3 screws) with hex key wrench. Take off base 55-70381, bearing seat 55-70383, and steel ball 55-70382.
6. Turn spanner nut 55-70320 (3 ea.) counterclockwise with special spanner. Take off Teflon washer 55-70319, tension ring 55-70318, and base cover 55-70380.
7. Remove level screw 55-70317.
8. Remove level screw bushing assembly 55-70410 with special tool.
   NOTE: There is no need to remove it if it isn't damaged. If replacement is necessary, heat it over an electric stove no hotter than 80EC (112EF), then turn it counterclockwise off of connecting base.

Assembling

Check parts, and replace those that are worn out. Assemble in reverse order of diagram I with attention to the following:

1. Before attaching level screw bushing assembly 55-70410, apply epoxy to three screw holes of M16X1 in connecting base 55-70366; then screw in and tighten level screw nuts.
2. Before attaching level screw 55-70317, apply grease to the threads M7X0.75, then screw into level screw bushing assembly 55-70410.
3. After tightening spanner nut 55-70320 onto level screw 55-70317, fix and seal it with anaerobic glue (glue should not touch painted surfaces and plastic parts).
4. Apply special grease to friction face of bearing seat 55-70383 touching base 55-70381 and the one touching steel ball 55-70382.

5. Even tightening of screws 55-70384 is necessary for appropriate tension and securing of footplate 55-70381.
6. After tightening screws 55-70384, rotate thread tensioning ring 55-70313 in level screw bushing assembly 55-70410. Turn one revolution clockwise to secure level screw 55-70317 and assure appropriate dynamics. After proper tension is achieved, seal thread tensioning ring and level screw cover with anaerobic glue.
7. Apply special grease underneath circle 55-70364 and retaining ring 55-70363.
8. After tightening screws 55-70361, check to see if circle 55-70364 rotates freely. Seal screws 55-70361 with anaerobic glue.
9. Before installing gear 55-70358, apply special grease to all surfaces of outer spindle 55-70355 that contact with gear 55-70358.
10. Gear 55-70358 should rotate smoothly around outer spindle 55-70355. Turn screw 55-70359 in diagram I to adjust the amount to tension on the movement of the gear.
11. After cleaning up the surfaces of inner and outer spindle 55-70355, put some drops of special spindle grease onto all contacting surfaces.
12. Referring to diagram H, onto base attach washer 55-70356, then telescope body 55-70353. Then put snap ring 55-70362 into the groove of inner spindle 55-70355.

Replacement of Endless Horizontal Drive

See diagrams H, I, and J.

Dismantling

1. Referring to diagram H, remove snap ring 55-70362 with bent-tip snap ring pliers. Turn telescope body 55-70353 while pulling gently until it is off base.
2. Referring to diagram J, take off cover 55-70367 around the knob.
3. Loosen left tangent knob set screw 55-70368 with flat-head screwdriver. Take care when loosening the screws; when released, spring 55-70370 will push knob 55-70369 off quickly towards you. Then take off the spring 55-70370, spacer 55-70371, and friction washer 55-70372.
4. Loosen set screw 55-70411 and remove horizontal tangent screw 55-70376, drive bushing 55-70375, and spacer 55-70374.
5. Referring to diagram I, remove snap ring 55-70357 with snap ring pliers. Take

off gear 55-70358 and friction plate 55-70360 if necessary.

Assembling

Check parts, and replace those that are worn out. Refer to diagram I and assemble in reverse order of diagram J with attention to the following:

1. Assemble horizontal tangent screw shaft 55-70376 and relevant parts according to diagram J, and check if leaf spring 55-70378 has proper tension to engage horizontal worm drive 55-70379 into gear 55-70358 when assembled.

2. Before attaching gear 55-70358, apply special grease to the outer circle-shaped face (coordinating with gear) of outer spindle 55-70355 (see diagram I).
3. Gear 55-70358 should revolve smoothly around spindle 55-70355. Adjust screw 55-70359 in diagram I to increase or decrease tension on the movement of the gear revolving around the spindle.
4. Apply special grease to the connecting part of gear 55-70358 and horizontal tangent screw shaft 55-70376.
5. After cleaning up the mating surfaces of inner and outer spindle 55-70355 (see diagram H), put some drops of special axis grease onto the outer face.

6. Referring to diagram H, onto base place Teflon bearing disc 55-70356, then telescope body 55-70353. Then install snap ring 55-70362 into the groove of inner spindle 55-70355.
7. Adjust screw 55-70411 in diagram J to be about 0.4mm away from drive bushing 55-70375. Seal the screw with paint.

Replacement of Objective Lens, Focusing System

Check parts, and replace those that are worn out. Assemble in reverse order of diagram K with attention to the following:

Dismantling

1. Remove screws 55-70336 (4 screws - diagram H) with Phillips-head screwdriver and take off the cover of telescope body 55-70353.

2. Before removing objective lens assembly 55-70395 (diagram K), pencil mark the position of the lens to make it easy to reassemble.
3. Loosen set screw 55-70385 (2 screws) with flat-head screwdriver; remove objective lens assembly 55-70395.
4. Before removing the focusing assembly 55-70391, turn the focus knob clockwise (toward infinity) until it hits the stop. Remove set screw 55-70412 (2) with a flat-head screwdriver: remove focusing assembly 55-70391. The white pinion guide 55-70335 might remain in the telescope body 55-70353; remove it with a pair of tweezers.
5. Before removing the focusing slide 55-70341, pencil mark its position relative to the telescope body 55-70353. Take out focusing slide 55-70341, and check focusing rack 55-70342 to see if it needs to be replaced.

Assembling

Check parts, and replace those that are worn out. Assemble in reverse order of diagram K with attention to the following:

1. Put the pinion guide 55-70335 back into the end of the focusing assembly 55-70391. Slide the focusing slide 55-70396 into the telescope body 55-70353 and position per pencil mark (drawn during dismantling). Insert focusing assembly 55-70391 using extreme care not to bend the pinion guide 55-70335. (It might be helpful to look in the objective end of the telescope housing while inserting the focusing assembly 55-70391 into the focus slide 55-70341 to insure proper alignment.) Tighten set screw 55-70412 (2). Once tightened, check the installation by turning the focus knob all the way in both directions. The focus pinion should stay engaged with the focus slide.

2. When replacing rack 55-70342, remove screw 55-70340 (2).
3. Glue light stop to the telescope body 55-70353 with neutral epoxy (remove existing glue first).
4. Replace gasket 55-70338 as necessary. Align objective lens assembly 55-70338 with pencil marks (drawn during dismantling) to ensure an accurate positioning.
5. Seal screw 55-70412 and 55-70385 with paint after tightening.
6. After assembly, refer to page 2 to test and re-calibrate.

Replacement of Focusing Knob Assembly

Check parts, and replace those that are worn out. Assemble in reverse order of diagram L with attention to the following:

Dismantling

1. Take off rubber cover 55-70322.
2. Remove screw 55-70324 with Phillips-head screwdriver. Dismantle the parts in the order indicated in diagram L. NOTE: If stop ring 55-70328 is undamaged, there is no need to separate.

Assembling

Check parts, and replace those that are worn out. Assemble in reverse order of diagram L with attention to the following:

1. After tightening screw 55-70324, seal it with paint.

Replacement of Reticle and Eyepiece

Check parts, and replace those that are worn out. Assemble in reverse order of diagram M with attention to the following:

Dismantling

1. Rotate cover 55-70306 counterclockwise and remove.
2. Remove screws 55-70304 (3 screws) with flat-head screwdriver; take off eyepiece knob 55-70305.
3. Remove screws 55-70307 (4 screws) with Phillips-head screwdriver; remove eyepiece housing 55-70308 (within which there is the eyepiece lenses) and gasket 55-70309.
4. Remove screws 55-70413 (4 screws) with Phillips-head screwdriver; take off reticle housing 55-70302 (with it will come 1 ea.: reticle unit 55-70310, reticle adjusting screw 55-70303, spring button 55-70311, and leaf spring (55-70352) and gasket 55-70309.) NOTE: If the parts in reticle housing 55-70302 need to be replaced, or reticle unit 55-70310 needs to be cleaned, remove screws 55-70307 (4 screws); otherwise, there is no reason to dismantle them. Keep these parts, especially reticle unit 55-70310, free from dust. They are only to be cleaned by professionals.

Assembling

Check parts, and replace those that are worn out. Assemble in reverse order of diagram M and readjust according to the following steps:

1. Attach the level onto the collimator and level circular bubble.
2. Fit into reticle housing 55-70302, the leaf spring 55-70352, reticle piston 55-70311, reticle unit 55-70310, and adjusting screw 55-70303.
3. Connect gasket 55-70351 and assembled reticle housing 55-70302 to telescope body with screws 55-70413.
4. Connect gasket 55-70309 and eyepiece assembly 55-70308 to telescope body with screws 55-70307.
5. Direct the level towards collimator. Observe to see if the horizontal hairs of the level and of the collimator overlap. If not, then adjust screw 55-70303 until they overlap and are perpendicular.
5. If they are not perpendicular, loosen screws 55-70413 (4 screws), and turn the reticle housing in the appropriate direction until the hair in the level no longer tilts against the hair in the collimator. Then fasten and seal screws 55-70413 with paint.
6. Assemble the remaining parts, then test and adjust.

Replacement of Compensator

This work should be done by an experienced professional.

Dismantling

1. Attach the level onto the collimator and level circular bubble.
2. Remove screws 55-70336 (4 screws as shown in diagram H) with Phillips-head screwdriver; take off the cover of telescope body 55-70344.
3. Referring to diagram O, remove screws 55-70348 (4 screws); take off compensator cover 55-70349 and gasket 55-70350.
4. Remove screws 55-70300 (2 screws) with Phillips-head screwdriver. Take out compensator 55-70301. NOTE: Keep the dismantled parts and the inner part of the level clean.

Assembling

Check parts, and replace those that are worn out. Assemble in reverse order of diagram N with attention to the following:

1. Lightly fasten compensator 55-70301 with two screws 55-70300 as indicated in diagram O.
2. Tilt the level forward or backward approximately +/-10' to see if there is any change in the position of the level's crosshair with that of the collimator. If there is a change move forward or backward the entire compensator until no change in the crosshairs occurs when tilting the level.
3. Tilt the level left or right approximately +/-10' to see if there is any change in the horizontal position of the level's hair with that of the collimator. If there is a change, loosen screws 55-70300, and turn clockwise or counterclockwise the entire compensator until no change in the horizontal position occurs when turning the level. Tighten screws 55-70300. Repeat steps 2 and 3 until compensating accuracy and cross accuracy are perfect. NOTE: Compensating accuracy and cross accuracy interact, so consideration should be given to both of them when testing and adjusting; i.e. carry out simultaneous adjustment of the two accuracies, meaning a compound side to side tilt and front to rear tilt of the compensator to produce the two accuracies at the same time. If cross hairs of the level fall in relation to the collimator when the objective of the level is lowered, the compensator needs to be moved towards the eyepiece. Just the reverse is true: if the cross hairs rise when the objective is lowered, the compensator needs to be moved towards the objective.
4. Attach rubber gasket 55-70350, cover 55-70349, and telescope cover 55-70344.
5. Test and readjust zero position according to page 2.

Grade of compensator accuracy

Magnification	20x	24x	28x	32x
Grade of compensator accuracy	±0.5"	±0.5"	±0.4"	±0.3"

SAL-20, SAL-24, SAL-28 & SAL-32 PART LIST

PART NUMBER	DESCRIPTION	SHOWN IN DIAGRAM
55-70300	M3 X 7 COMPENSATOR MOUNTING SCREW	N
55-70393	COMPENSATOR- SAL20	N
55-70301	COMPENSATOR- SAL-24	N
55-70400	COMPENSATOR- SAL-28	N
55-70450	COMPENSATOR- SAL32	N
55-70302	RETICLE MOUNT	M
55-70303	RETICLE ADJUSTING SCREW	M
55-70304	M2 X 6 EYEPIECE CAP SET SCREW	M
55-70305	EYEPIECE CAP	M
55-70306	RETICLE COVER	M
55-70307	M2.5 X 8 EYEPIECE MOUNTING SCREW	M
55-70308	EYEPIECE COMPLETE	M
55-70309	EYEPIECE GASKET	M
55-70310	RETICLE ASSEMBLY- FOR 20, 24, 28	M
55-70401	RETICLE ASSEMBLY- FOR SAL-32	M
55-70311	RETICLE PISTON	M
55-70312	"E" CLIP	I
55-70313	THREAD TENSIONING RING	I
55-70314	REGULATING NUT	I
55-70315	LEVEL SCREW SPRING	I
55-70316	LEVEL SCREW SLEEVE	I
55-70317	LEVEL SCREW	I
55-70318	TENSION RING	I
55-70319	TEFLON WASHER	I
55-70320	SPANNER NUT	I
55-70321	LEVEL SCREW & BUSHING ASSEMBLY	I
55-70322	FOCUS KNOB COVER	L
55-70323	FOCUS KNOB WASHER	L

55-70324	M2 X 3 FOCUS KNOB SCREW	L

SAL-20, SAL-24, SAL-28 & SAL-32 PART LIST

PART NUMBER	DESCRIPTION	SHOWN IN DIAGRAM
55-70325	FOCUS KNOB	L
55-70326	M2 X 3 FOCUS KNOB SET SCREW	L
55-70327	TEFLON WASHER	L
55-70328	STOP RING	L
55-70329	FOCUS HOUSING	L
55-70330	FOCUS GASKET	L
55-70331	TEFLON WASHER	L
55-70332	WASHER	L
55-70333	PINION SHAFT	L
55-70335	PINION GUIDE	L
55-70336	M2.5 X 10 COVER MOUNTING SCREW	H
55-70395	OBJECTIVE CELL ASSEMBLY- SAL-20	K
55-70337	OBJECTIVE CELL ASSEMBLY- SAL-24	K
55-70402	OBJECTIVE CELL ASSEMBLY-SAL-28	K
55-70451	OBJECTIVE CELL ASSEMBLY- SAL-32	K
55-70338	OBJECTIVE GASKET	K
55-70339	FOCUS SLIDE SPRING	K
55-70340	M2 X 3 MOUNTING SCREW	K
55-70396	FOCUS SLIDE- FOR SAL-20	K
55-70341	FOCUS SLIDE- FOR SAL-24	K
55-70452	FOCUS SLIDE- FOR SAL-28	K
55-70403	FOCUS SLIDE- FOR SAL-32	K
55-70342	FOCUSING RACK	K
55-70397	FIXED FOCUSING LENS- FOR SAL-20	N
55-70343	FIXED FOCUSING LENS- FOR SAL-24	N

55-70404	FIXED FOCUSING LENS- FOR SAL-28	N
55-70452	FIXED FOCUSING LENS- FOR SAL-32	N
55-70344	TELESCOPE COVER	H
55-70345	PEEPSIGHT	H

SAL-20, SAL-24, SAL-28 & SAL-32 PART LIST

PART NUMBER	DESCRIPTION	SHOWN IN DIAGRAM
55-70346	M2.5 X 5 BUBBLE READER MOUNTING SCREW	H
55-70347	BUBBLE READER ASSEMBLY	H
55-70348	M2 X 11 COMPENSATOR COVER MOUNTING SCREW	N
55-70349	COMPENSATOR COVER	N
55-70350	COMPENSATOR COVER GASKET	N
55-70351	RETICLE HOUSING GASKET	M
55-70352	RETICLE ADJUSTING SPRING	M
55-70353	TELESCOPE HOUSING	H
55-70354	M3 X 5 SPINDLE MOUNTING SCREW	H
55-70355	INNER & OUTER CENTER SPINDLE SET	H
55-70356	TEFLON WASHER	H
55-70357	CIRCLE RETAINER CLIP	I
55-70358	HORIZONTAL TANGENT GEAR	I
55-70359	M2.5 X 6 TANGENT GEAR SET SCREW	I
55-70360	SPRING	I
55-70361	M2 X 3 CIRCLE MOUNTING SCREW	I
55-70362	LEVEL HEAD RETAINING CLIP	H
55-70363	HORIZONTAL CIRCLE RETAINING RING	I
55-70364-D	HORIZONTAL CIRCLE- DEGREES	I
55-70364-G	HORIZONTAL CIRCLE- GONS	I
55-70365	CIRCLE FRICTION WASHER	I
55-70366	LEVEL BASE	I
55-70367	RUBBER TANGENT KNOB COVER	J

55-70368	M3 X 5 TANGENT KNOB SET SCREW	J
55-70369	LEFT TANGENT KNOB	J
55-70370	TANGENT SPRING	J
55-70371	OUTER SPACER	J
55-70372	FRICTION WASHER	J

SAL-20, SAL-24, SAL-28 & SAL-32 PART LIST

PART NUMBER	DESCRIPTION	SHOWN IN DIAGRAM
55-70373	TANGENT SCREW RETAINER	J
55-70374	INNER SPACER	J
55-70375	DRIVE BUSHING	J
55-70376	TANGENT SCREW	J
55-70377	M2 X 3 TANGENT LEAF SPRING SCREW	J
55-70378	TANGENT LEAF SPRING	J
55-70379	RIGHT TANGENT KNOB	J
55-70380	BASE COVER	I
55-70381	FOOTPLATE	I
55-70382	LEVEL SCREW BALL BEARING	I
55-70383	BALL BEARING SEAT	I
55-70384	M4 X 10 BASE COVER RETAINING SCREW	I
55-70385	M3 X 4 OBJECTIVE LOCKING SET SCREW	K
55-70386	M2.5 X 6 PEEPSIGHT MOUNTING SCREW	H
55-70387	CIRCULAR VIAL SPRING	H
55-70388	M2.5 X 6 CIRCULAR VIAL MOUNTING SCREW	H
55-70389	CIRCULAR VIAL ASSEMBLY	H
55-70390	CARRYING CASE	----
55-70410	LEVEL SCREW BUSHING ASSEMBLY	I
55-70411	TANGENT SET SCREW	J
55-70412	FOCUSING SET SCREW	K

55-70413	RETICLE MOUNT SCREW	M
55-70414	TRANSPORTATION LOCK ASSEMBLY	N
55-70497	VAIL MOUNTING SCREW	H
55-70391	FOCUS ASSEMBLY COMPLETE	K
55-70392	TANGENT SCREW ASSEMBLY COMPLETE	J