



S21 12WO Series

Repair Manual



Table of Contents

1.	Tools Needed to Repair the S2122WO Series Head.....	pg. 3
2.	Disassembly of S212WO Series Head.....	pg. 4
3.	Assembly of S2112WO Series Head.....	pg. 5
4.	Exploded View.....	pg. 8
5.	Preventative Maintenance.....	pg. 9



Tools Needed to Repair S2112WO Series Head

1. Set of Snap Ring Pliers
2. 2mm and 2.5mm Hex Key Wrench
3. Set of Punches
4. 13 oz. Ball Peen Hammer
5. Three Ton Arbor Press
6. Set of V-Blocks
7. Parts Cleaning Tank
8. Service Removable Thread Locker
9. Grease ISY-Grease OMC²-2 or 24212

Disassembly of the S2112WO Series Head

1. Remove the inside circlip that retains the crown gear and bearings from the back of the housing. Remove the crown gear and bearings.



2. Remove the six 2.5mm cap head screws and two 2mm hex flush head from the lower housing, separate the lower and upper housings.



3. Remove all gears, needle bearings, ball bearings, dog, grooved pins and springs from the low housing. Separate the bevel gear and input drive gear. Separate the crown gear and radial bearings. Clean all parts thoroughly in a parts cleaning tank.



Disassembly of the S21 12WO Series Head (continued)

- Inspect needle bearings ball bearings for pitting, bearings for knocking and looseness and all gears for pitting and grooves in teeth of gears. Replace as needed with genuine AIMCO/AcraDyne parts.

Assembly of S21 12WO Series Head

- Put a light coat of grease on all part that go inside of the upper and lower housing.



- Press the two radial bearings onto the crown gear, install the washer and circlip.

- Install the 21 ball bearings where the bevel gear goes in the upper housing.

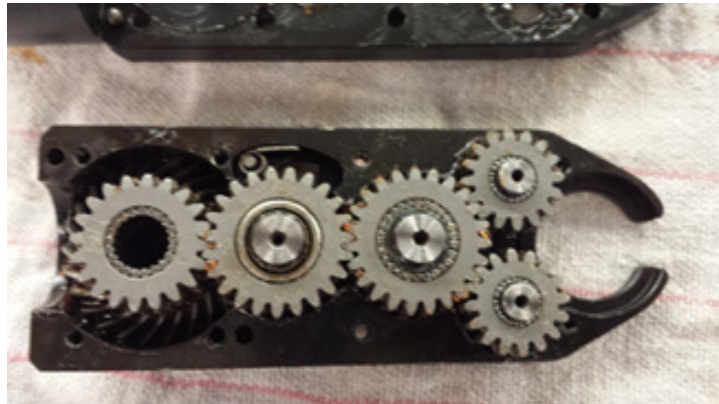


Assembly of S2112WO Series Head (continued)

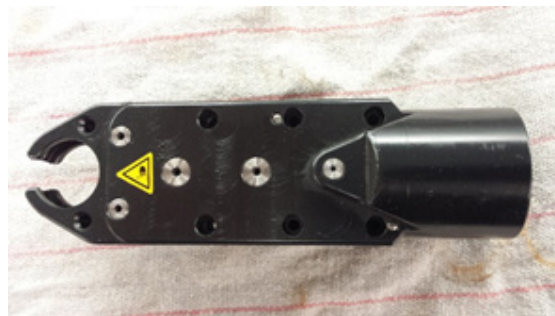
4. Install the dog grooved pin side up into the upper housing and install the special spring bent ends down between the dog and the outer wall of the upper housing.



5. Install the key in the input drive gear and install the bevel gear over the key and down towards the gear part of the input drive gear. Install all gears and needle bearings into the upper housing. Rotate the input drive gear counter clock wise until the dog engages with the idler gear.

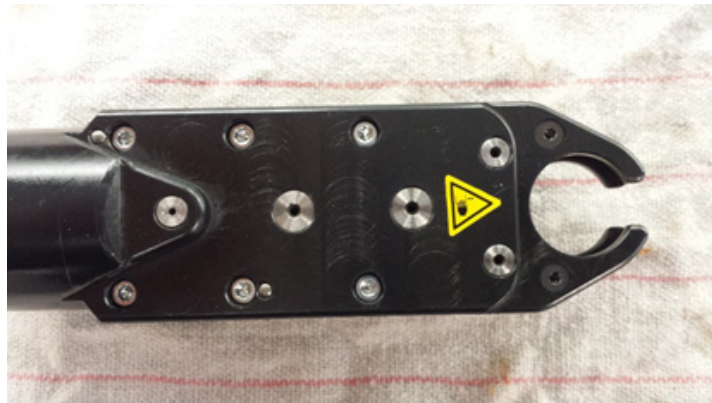


6. Install the output drive gear so that the opening in the upper housing lines up with the opening in the output drive gear. Install the lower housing onto the upper housing making sure that the axle shaft in the lower housing goes into the input drive gear.



Assembly of S2112WO Series Head (continued)

7. Install the six 2.5mm hex cap head screws and the two 2mm hex flush head screws to 16 in. lbs. using service removable thread locker.



8. Install the crown gear into the back of the housing and install the circlip that retains the crown gear in the housing.



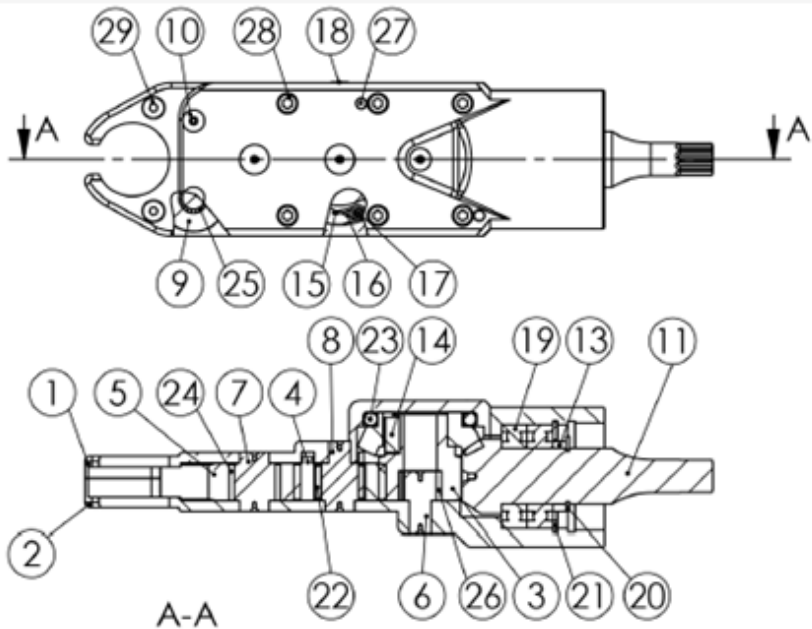
Output Drive Gear

S2112-03	12mm Surface Drive
S2112-03.1	10mm Surface Drive
S2112-03.2	12mm Hex
S2112-03.3	10mm Hex
S2112-03.4	10mm & 12mm Hex Combination
S2112-03.5	12mm Surface Drive Extended 9mm
S2112-03.6	10mm & 15mm Double Hex Extended 10mm
S2112-03.8	10mm & 15mm Surface Drive Extended 10mm

Exploded View

S2112WO CROWFOOT
WITH OUTPUT DRIVE GEAR AND WITHOUT ADAPTER

EXPLODED VIEW



A-A

PARTS LIST — FOR REFERENCE ONLY

Index Number	Part Number	Description	Qty.	Index Number	Part Number	Description	Qty.	Index Number	Part Number	Description	Qty.
1	S2112-01	Upper Housing	1	10	S2112-09	Axle Shaft for Planet Gear	2	22	HK 1010	Needle Bearing	1
2	S2112-02	Lower Housing	1	11	S2112-10-11	Crown Gear and Bevel Gear Set	1	23	KUGELN 21x4	Ball Bearing (Set)	1
3	S2112-04	Input Drive Gear	1	13	S2112-12	Washer	1	24	NADELN 26x1.5x9.8	Needle Bearing (Set)	1
4	S2112-05	Idler Gear	1	14	Polfeder 5x4x9.5	Parallel Key Modified	1	25	NADELN 22x1.9x8	Needle Bearing (Set)	2
5	S2112-05.1	Idler Gear	1	15	FL 0006	Special Spring (Right)	1	26	NADELN 21x1.5x7.8	Needle Bearing (Set)	1
6	S2112-06	Axle Shaft for Input Drive Gear	1	16	FL 0002	Dog 6 x 2.8 Right	1	27	ISO 8734-3x12	Parallel Pin	2
7	S2112-07	Axle Shaft for Idler Gear	1	17	ISO 8745-M2x7	Grooved Pin	1	28	DIN 912-M3x10	Socket Head Cap Screw	6
8	S2112-07.1	Axle Shaft for Idler Gear	1	18	OHO 0151	Grease Nipple	1	29	DIN 7991-M3x10	Countersunk Head Cap Screw	2
9	S2112-08	Planet Gear	2	19	SKF-61902	Radial Bearing	2				
				20	DIN 471-15x1	Circlip	1				
				21	DIN 472-28x1.2	Circlip	1				



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When ordering spare parts, please specify tool type, part number, and description.

FOOTNOTES

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Preventative Maintenance

Notice: All work must be performed by a trained and certified AIMCO/AcraDyne repair technician. Replace all worn parts with original AIMCO / AcraDyne parts.

Tube Nut Head:

- Lubricate the tube nut head every 4,000 cycles with ISY-Grease OMC²-2 part number 24212.
- Heavy-duty cycles cleaned, inspected and lubricated every 100,000 cycles.
- Medium-duty cycles cleaned, inspected and lubricated every 250,000 cycles.
- Light-duty cycles cleaned, inspected and lubricated every 500,000 cycles.

Ring Gears, Planet Gears & Bearings for the Tool:

- Heavy-duty cycles cleaned, inspected and lubricated every 100,000 cycles.
- Medium-duty cycles cleaned, inspected and lubricated every 250,000 cycles.
- Light-duty cycles cleaned, inspected and lubricated every 500,000 cycles.
- Life expectancy:
 - Heavy-duty cycles - 1 million cycles
 - Light to medium duty cycles - over 2 million cycles.



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