

AP7108 PNEUMATIC POWERED FISHPOLE HOIST

Operation, Maintenance & Part's

Rev. O - 01/01/13

Morgan Aero Products

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FORWARD

This manual has been written to assist in the operation, maintenance and service of the Morgan AP7108 pneumatic powered fishpole hoist. Encourage those individuals who will operate and maintain the hoist to study its contents thoroughly before attempting any maintenance or hoist operation. By doing so you will be assured of maximum performance and long service life. Keep this manual available for future operational and maintenance needs.

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SECTION I - GENERAL DESCRIPTION

1-1. The Morgan Pneumatic powered fishpole hoists are precision built spur geared type hoists, especially designed for close quarter lifting. They are operated by an attached precision reversing air motor.

1-2. The serial number and model number of each hoist is found on the hoist frame. When ordering parts, always give model and serial number of hoist. **INFORMATION CONTAINED IN THIS MANUAL IS SUBJECT TO CHANGE WITHOUT NOTICE.**

1-3. Frames are aluminum alloy, load chains are welded link type of special calibrated pitch and are heat treated alloy steel.

SECTION II - OPERATION

2-1. A Morgan Pneumatic powered fishpole hoist is a special tool, designed for Aircraft

use. Know its convenient controls and their functions. Always practice hoist safety and your company policy pertaining to lifting equipment and common sense.

WARNING

This equipment is not designed, approved or suitable as a power source for lifting or lowering persons. DO NOT USE FOR LIFTING OF PERSONNEL

2-2. TO RAISE LOAD

- Rotate the directional control ring on the air motor all the way in the control lever to "UP" position (hoist must be free of handle loading when turning finger-tip control lever to "UP").
- Load can now be raised by depressing the air control valve.
- Maximum capacity of the AP7108 is 1000lb. **DO NOT EXCEED** this weight.

2-3. TO LOWER LOADHOOK.

- Rotate the directional control ring in the opposite direction.
- Depress the air control valve and the load will lower.
- Insure the directional control ring has been completely turned to either the up or the down position. Incomplete ring actuation may cause the motor not to rotate or decrease lifting or lowering performance.

GENERAL OPERATIONAL NOTES.

- 1) Ensure the chain is not twisted in the boom. The allen head locking screw in the lift head can be loosened, and the head turned, to align it with the chain. Make sure it is in alignment with the chain as it is fed from the drive end. If alignment is necessary make sure the drive head is seated firmly on the boom and re-tighten the locking screw.

2) When playing chain out, make sure to pull slightly on the attachment fitting end to ensure that the chain does not become tangled or stuck in the boom tube.

3) Check chain, lift points, boom tube and body for any knotting, damage or severe wear prior to each use. **DO NOT** use if damage or excessive wear is noted.

SECTION III - LUBRICATION

3-1. LUBRICATION OF INTERNAL PARTS.

All internal operating parts of the Morgan Pneumatic powered fishpole hoist that require lubrication are prelubricated at time of assembly by the factory. Periodic lubrication of the load chain and exterior moving parts are recommended, and intervals are dependent upon type of service.

3-2. LUBRICATION OF EXTERNAL PARTS.

a. Load chain should always be protected from wear with a light film of general purpose oil, especially when subjected to damp or corrosive atmospheres.

b Lubricate all needle bearings with a high quality multi-purpose moly type grease

c. Lubricate upper and lower attach points and all moving pivots and swivels with a film of light general oil, as required. (Also see section 6-16)

WARNING
Do not oil load Brake. It is extremely important the load brake friction surface be kept free of any oil film, so do not apply oil internally

SECTION IV – MAINTENANCE

4-1. GENERAL.

The following are preventive maintenance steps which should be performed periodically as operating conditions demand. The hoist must be inspected prior to each use for visible damage, and any if

found, reported to the proper supervisory personnel. Under most conditions, a yearly maintenance inspection is adequate. The entire hoist should be dismantled and its parts inspected for damage or wear and replaced as necessary. At reassembly, the hoist should be relubricated as outlined in paragraph 6-12. If the hoist has been subjected to extremely adverse conditions, such as excessive dirt, moisture, and misuse by overloading, a more frequent maintenance inspection should be made. Also perform a visual check hoist after each use.

4-2. LOAD BRAKE.

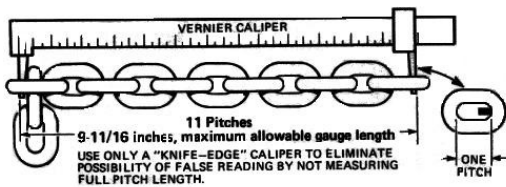
If load brake shows a tendency to slip or drag, remove brake parts, as outlined in paragraph 6-5, and inspect brake friction surfaces for signs of damage, wear, dirt, or an oil film. Contact surfaces of brake flange and ratchet wheel must be free of excessive scoring and clean. Faces of brake washers should be lightly wire brushed and buffed. Also, be certain that the inside diameter of the brake washers are free of loose material and burrs. Replace any worn parts. Load brake pawl should also be checked for signs of wear or damage.

NOTE: Be sure to keep brake friction surfaces free of oil at reassembly.

4-3. LOAD CHAIN.

Clean chain for inspection. Examine visually for gouges, nicks, weld splatter, corrosion or distorted links. Slacken chain and check bearing surfaces between links for wear (Figure 4-1). Greatest wear will often occur at sprocket at high or low point of lift, particularly when hoist is subjected to repetitive lifting cycles. Case hardness of chain is .010 - .015" deep. Chain must be replaced before the case is worn through. Also check chain for elongation using a vernier caliper. Select an unworn, unstretched section of chain (usually at slack or tail end) and measure and record the

length over the number of chain links (pitches). Measure and record the same length of a worn section in the load side of the chain. Obtain the amount of wear by subtracting the measurement of the unworn section from the measurement of the worn section. If the result (amount of wear) is greater than the amount specified in Table 4-1, the chain has elongated beyond the maximum allowable length and must be replaced. Chain with excessively pitted, corroded, nicked, gouged, twisted or worn links should be replaced using only factory approved chain. Never weld or attempt to repair coil chain.



Pitches to Measure	Nominal Length	Max. Wear Limit
13	10.56"	.164

Table 4-2. Allowable Chain Wear – Elongation

CAUTION

Do not assume that the load chain is safe because it measures below replacement points given herein. Other factors, such as those mentioned in visual checks above, may render chain unsafe or ready for replacement long before elongation replacement is necessary.

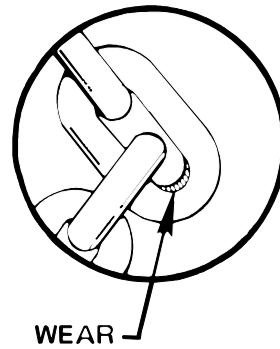


Figure 4-1. Check Chain Wear at Bearing Surfaces Between Links

WARNING

When replacing load chain, use only factory supplied chain conforming to factory specifications for material, hardness, strength and link dimensions. Chain not conforming to Morgan Pneumatic powered fishpole hoist specifications may be dangerous as it will not fit in the load sprocket and chain guide correctly, causing damage to hoist, and it will wear prematurely, deforming and eventually break.

4-4. ATTACH FITTINGS.

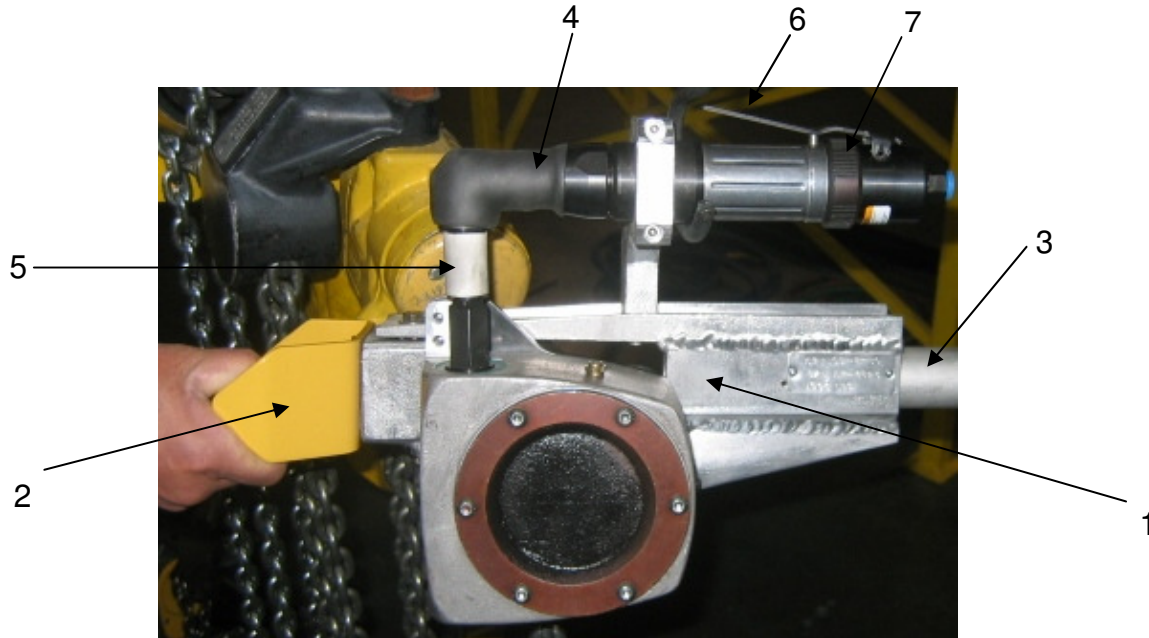
Inspect fittings and attachment points regularly for evidence of overloading or damage. Your Morgan Pneumatic powered fishpole hoist is equipped with special mounting hardware, contact the factory for correct dimensions, giving model number of hoist.

SECTION V - TROUBLE SHOOTING

CONDITION	PROBABLE CAUSE	REMEDY
1 Load Brake slips. (Hoist will not support loads.)	1 Brake friction surfaces coated with oil, or brake washers glazed 1. No lubrication on cam surfaces of load brake. 2. Brake parts damaged or worn. 3. Load chain installed backwards.	1 Remove brake parts and clean surfaces. Lightly wire brush friction faces of brake washers: remove any inside diameter burrs, and buff or replace if necessary. 2 Clean thoroughly and add lubrication. 3 Remove and inspect brake parts. Replace if necessary.
2 Motor turns slowly or not at all.	1 Hoist is overloaded. 2 Low air pressure (90 psi required) 3 Motor directional control valve not fully in position	1 Remove a portion of the load. 2 Check compressor and air lines for damage 3 Turn motor directional control valve fully into position. 4 Air motor needs lubrication
5 Erratic Operation.(Chain gags or jumps in lowering direction)	1 Load chain installed wrong, welds on links facing sprocket.	1 Remove and reinstall with link welds facing away from sprocket.
6 Finger-Tip Control Lever Sticks.	1. Dirt inside handle or lack of lubrication	1. Disassemble, clean and lubricate
6 Frame cracked or badly mutilated.	1 Hoist subjected to overloading. 2 Load chain run thru hoist too far, in lowering, causing welded end link bind against frame. 3 Hoist subjected to extreme angular or side pulls, causing chain to bind on side of frame. 4 hoist dropped or thrown.	1 Whenever the frame shows evidence of damage from misuse or rough handling, the hoist should be completely dismantled, all parts inspected and damaged or worn parts replaced. In order to ensure safe and reliable operation return the hoist to the manufacturer for a complete overhaul. Always use the proper safety rules when using the Morgan pneumatic powered fishpole hoist.

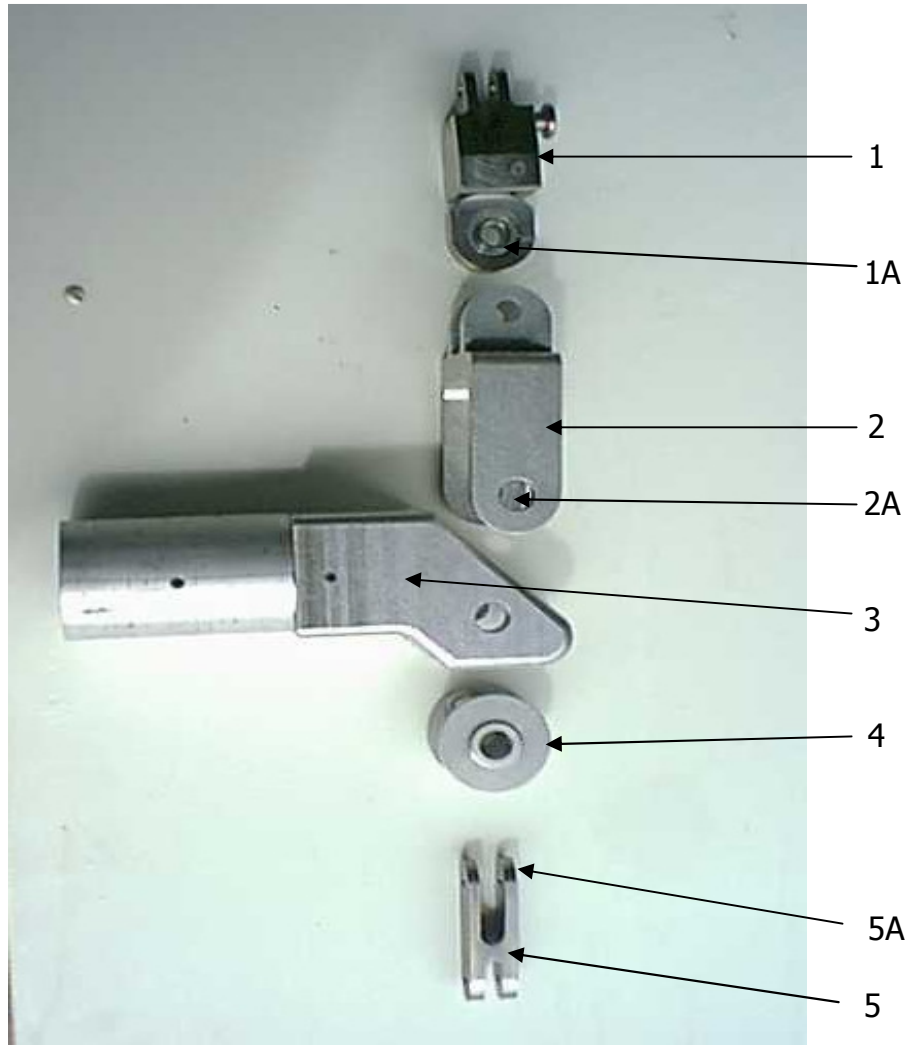
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DRIVE HEAD AND MAST



REFERENC E	DESCRIPTION	PART NUMBER	QTY
1	Drive head (less air motor)– Maintenance and parts manual for internal components available from Morgan Aero Products	MA-9318	1
2	Handle	MA-7005	1
3	Mast – Order mast length depending on individual requirement. (24” supplied from factory)	MA-7006	A/R
Chain (Not shown)	Load Chain (Order length based on required lift + boom length + two feet)	MA-7007	A/R
4	Drive motor	MA-8150	1
5	Drive motor adapter	MA-9626	1
6	Motor control lever	NA	1
7	Directional control ring	NA	1

LIFT HEAD



REFERENCE	DESCRIPTION	PART NUMBER	QTY.
1	Swivel, attach block, with bearing and pin	AFP 203	1
1A	Lower Swivel attachment pin (not shown)	AFP 203A	1
2	Upper attachment link, includes pin	AFP 205	1
2A	Upper attachment link bolt (not shown)	AFP 205A	1
3	Mast head, includes pin	AFP 208	1
4	Chain roller	AFP 210	1
5	Lower attach block, includes upper and lower pin.	AFP 215	1
5A	Lower attach block bolt (not shown)	AFP 215A	1
5B	Lower attach blok pin with lanyard (not shown)	AFP 215B	1

When ordering parts, always give Model and serial number of the hoist.

WARRANTY

A. Seller warrants that its products and parts, when shipped, and its work (including installation, construction and start-up), when performed, will meet applicable specifications, will be of good quality and will be free from defects in material and workmanship. All claims for defective products or parts under this warranty must be made in writing immediately upon discovery and , in any event, within one (1) year from shipment of the applicable item unless Seller specifically assumes installation, construction or start-up responsibility. All claims for defective products or parts when Seller specifically assumes installation, construction or start-up responsibility, and all claims for defective work must be made in writing immediately upon discovery and , in any event, within one (1) year from completion of the applicable work by Seller, provided; however, all claims for defective products and parts must be made in writing no later than eighteen (18) months after shipment. Defective items must be held for Seller's inspection and returned to the original f.o.b. point upon request. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY, INCLUDING , WITHOUT LIMITATIONS, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

B. Upon Buyer's submission of a claim as provided above and its substantiation, Seller shall at its option either (I) repair or replace its product, part or work at either the original f.o.b. point of delivery or at Seller's authorized service station nearest Buyer or (ii) refund an equitable portion of the purchase price.

C. This warranty is contingent upon Buyer's proper maintenance, use and care of Seller's products, and does not extend to fair wear and tear. Seller reserves the right to void warranty in event of Buyer's use of inappropriate materials in the course of repair or maintenance, or if Seller's products have been dismantled prior to submission to Seller for warranty inspection.

D. The foregoing is Seller's only obligation and Buyer's exclusive remedy for breach of warranty, and is Buyer's exclusive remedy hereunder by way of breach of contract, tort, strict liability or other wise. In no event shall Buyer be entitled to or Seller liable for incidental or consequential damages. Any action for breach of this agreement must be commenced within one (1) year after the cause of action has accrued.