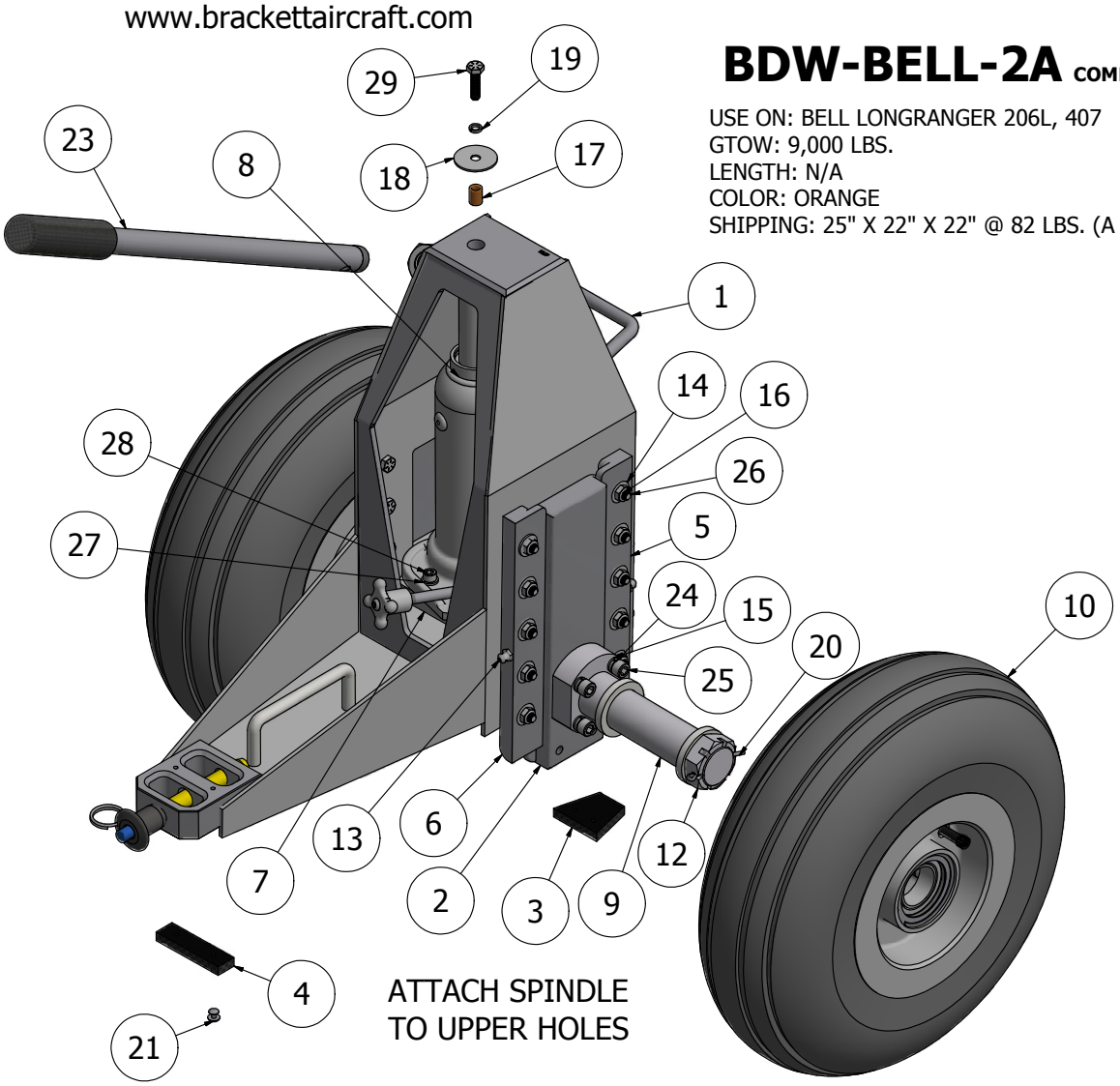
BRACKETT AIRCRAFT COMPANY INC.

www.brackettaircraft.com

BDW-BELL-2A COMPLETE WHEEL SET

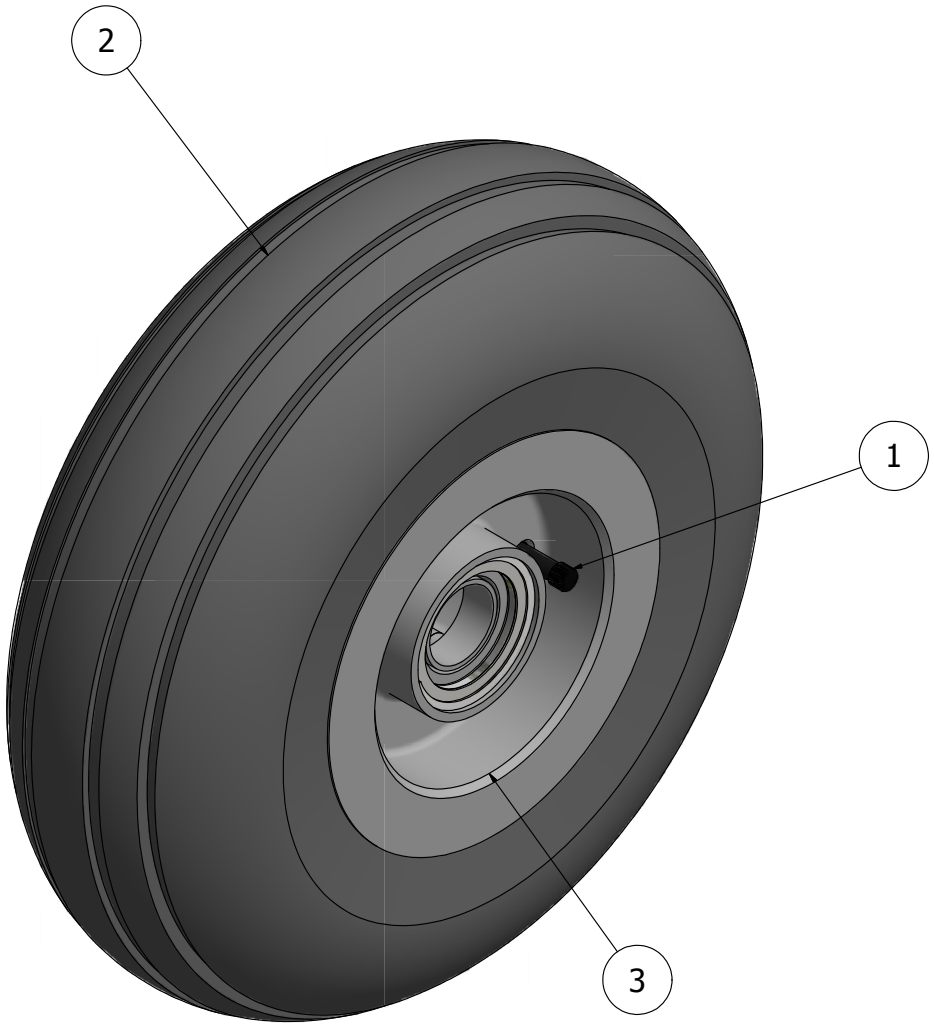
USE ON: BELL LONGRANGER 206L, 407
GTOW: 9,000 LBS.
LENGTH: N/A
COLOR: ORANGE
SHIPPING: 25" X 22" X 22" @ 82 LBS. (A SET IS TWO BOXES)



PARTS LIST

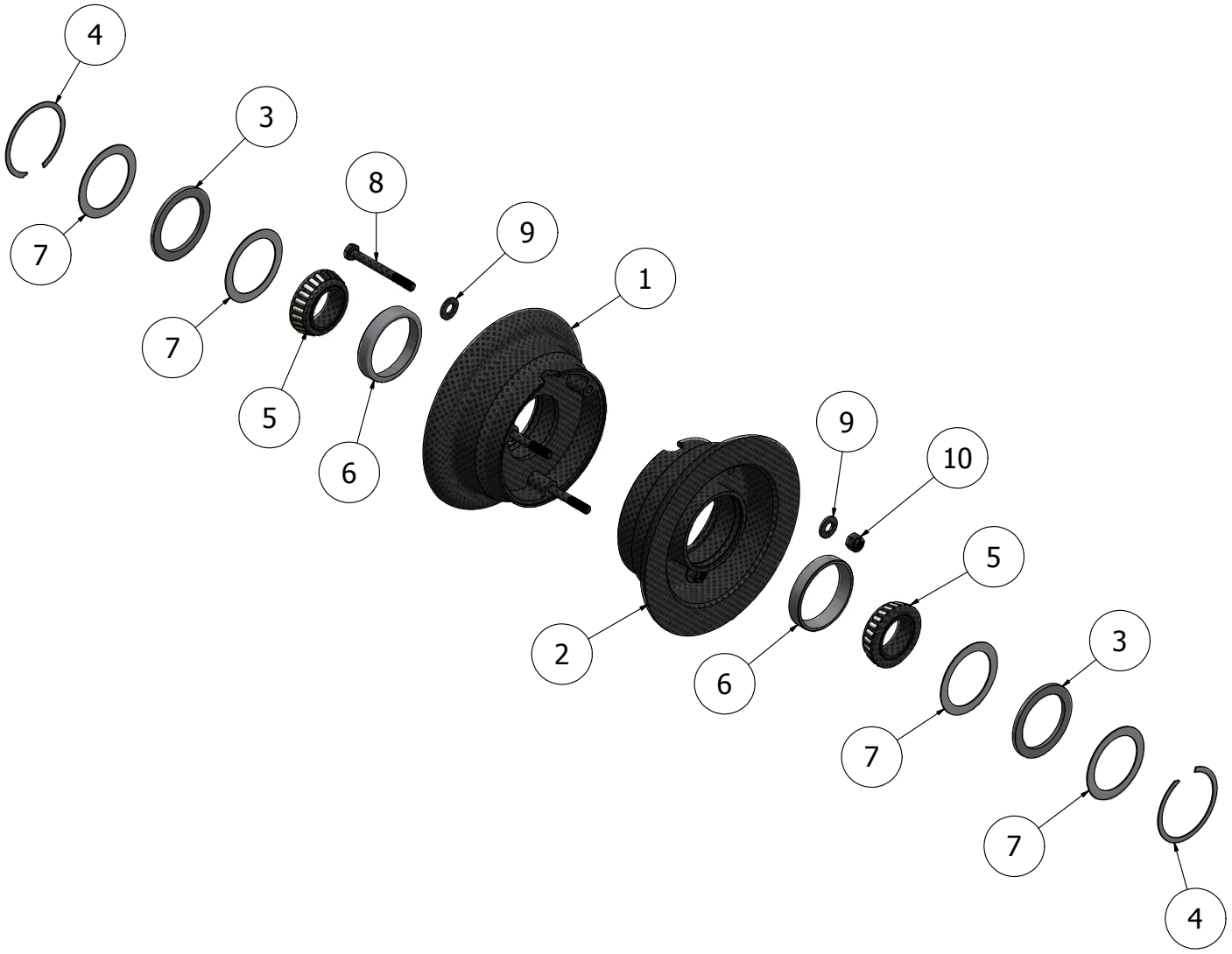
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	W-BELL-00	WELDED FRAME ASM.
2	2	W-BELL-05	AXLE SLIDE
3	1	W-BELL-06	ROUGH BACK
4	1	W-BELL-07	ROUGH BACK
5	2	W-430-21	GUIDE
6	2	W-430-22	LEFT GUIDE
7	1	W-HUF-02	JACK BASE
8	1	W-HUF-03EB	JACK WITH BOLT KIT
9	2	W-245-17A	BASIC SPINDLE
10	2	W-500514	TIRE/WHEEL ASSEMBLY
11	4	W-245-19	RING
12	2	W-245-25A	CASTLE NUT
13	4	1095K41	1/4-28 ZERK FITTING
14	20	AN960-416L	5/16 WASHER
15	8	94773A772	SHIM S.S. 5/16 I.D. .060 THICK
16	20	90566A210	1/4-28 THIN HEX LOCKNUT
17	1	6391K132	1/4 I.D. 3/8 O.D. 1/2 HIGH BRONZE BUSHING
18	1	91090A109	1/4 X 1 1/4 FENDER WASHER
19	1	91102A029	1/4 LOCK WASHER
20	2	98338A479	1/8 X 1 3/4 COTTER PIN
21	4	97517A055	1/8 X 1/2 ALUM. POP RIVET
22	1	CL-8-BLPB-3.00	1/2 X 3 BALL LOCK PIN
23	1	W-HUF1-12	HANDLE ASSEMBLY
24	8	98437A112	5/16 HIGH COLLAR LOCK WASHER
25	8	90128A757	5/16-24 X 1 1/2 SHCS
26	20	91286A135	1/4-28 X 1 BOLT
27	2	94241A270	1/4 HIGH COLLAR LOCK WASHER S. S.
28	2	92196A540	1/4-20 X 3/4 SHCS S.S.
29	1	91286A111	1/4-20 X 1 BOLT

W-500514 TIRE/WHEEL ASSEMBLY



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	W-500514TB	INNER TUBE 5.00-5 WITH TR-67 VALVE
2	1	W-500514TR	5.00 X 5 14 PLY TIRE
3	1	W-500514WH	WHEEL ASSEMBLY

W-500514WH WHEEL ASSEMBLY



PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	W-500514WH-2	OUTER WHEEL HALF
2	1	W-500514WH-1	INNER WHEEL HALF
3	2	4077-3	FELT WASHER
4	2	VH-237	SNAP RING
5	2	LM67048	BEARING
6	2	LM67010	BEARING CUP
7	4	C133502	2.372 O.D. 1.811 I.D. .031 WASHER S.S.
8	3	AN4-23A	1/4-28 X 2 13/32 CAD PLATED BOLT
9	6	AN960-416	5/16 WASHER
10	3	MS21045-4	1/4-28 LOCK NUT

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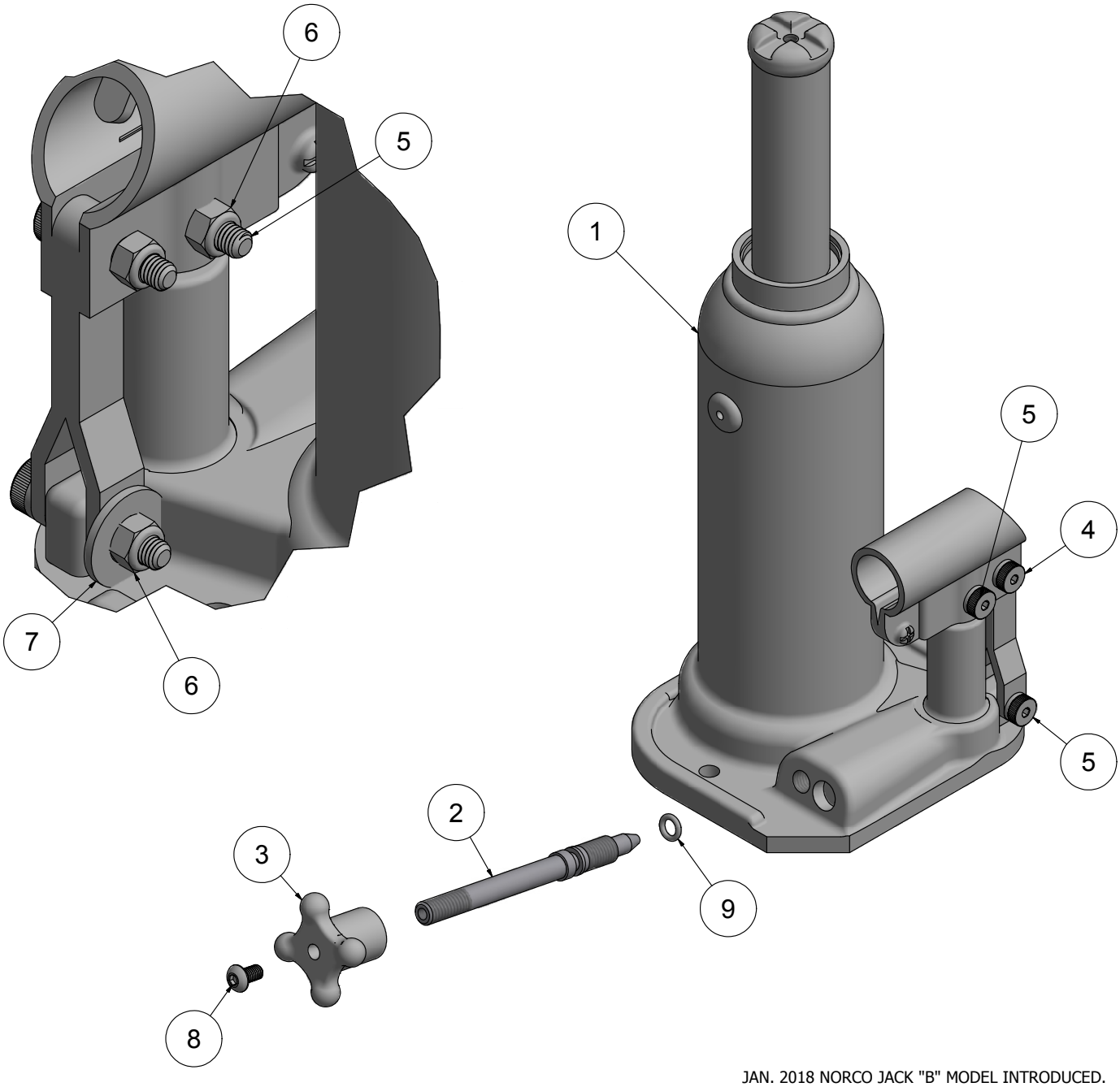
W-HUF-03EB JACK WITH BOLT KIT



JAN. 2018 NORCO JACK "B" MODEL INTRODUCED.
PLEASE IDENTIFY YOUR JACK MODEL BEFORE
ORDERING REPLACEMENT PARTS.

PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	W-HUF-03EB-01	HYDRAULIC JACK
2	1	W-HUF-10-01	VALVE STEM
3	1	W-HUF-03DB-02	ALUMINUM 4 ARM KNOB 5/16-18 THREADED
4	1	92981A101	6MM X 12MM M5 THREAD SHOULDER BOLT
5	2	92981A102	M5 THREAD 6MM X 16MM SHOULDER BOLT
6	3	90576A104	M5 .8MM PITCH LOCK NUT
7	1	AN960-416	5/16 WASHER
8	1	92949A263	10-32 X 3/8 CAP SCREW S.S.
9	1	9452K169	BUNA-N 3/32 - 107 O-RING
N.S.	OPT.	603200	JACK #76503B, SEAL KIT (#603200)
N.S.	OPT.	AW ISO 32	HYDRAULIC JACK OIL
N.S.	OPT.	W-HUF-03-10D	HARDWARE KIT

BDW-BELL-2A

NOTE: Always store the wheels in a well-protected area where they will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements.

1. Before placing wheels on skid tube:

   PRE-CHECK

   Worn Tires – replace when less than $^{3}/_{32}$" (2.4mm) tread
   Check easy to roll – no bearing noise
   Look at welds for cracks
   Check frame for damage
   Check tire pressure – 130 PSI
   Jack Oil – NO leaks on Frame base

- The wheels are mounted on the skid tube with the Jack Handle pointing FORWARD.
- To roll the wheels
  - Thread Jack handle into the handle holder, as shown.
  - Turn jack release knob counter clockwise ½ turn – never more than 2 turns.
  - Lift the jack frame up and tighten jack release knob – the carrier should be 3" above the ground.
  - Use handle to steer the wheels out to the helicopter.

2. At the helicopter:

- Lift the wheels over the skid tubes – lifting eyes.
- Turn jack knob ½ turn to release pressure.
- Push the frame down & forward sliding carrier front nose pin into skid tube mounting hole. Finish by pushing rear carrier over the mounting hole & insert the ball lock pin thru the carrier & skid tube mount.
- Tighten jack release knob until it stops. (DO NOT OVER TIGHTEN)
- Place handle into jack link and pump until jack reaches bottom of frame.
  (DO NOT KEEP JACKING AFTER THE JACK REACHES BOTTOM OF FRAME – DAMAGE CAN OCCUR)
- Remove handle and store in handle holder. This prevents the handle from falling out during towing.

Removal of Wheels

1. Be sure nothing is under the skid tubes, LIKE YOUR TOES.

- Turn jack release knob counter clockwise **VERY, VERY SLOWLY**.
- Once the skid tubes are secure on the ground, rock the frame back and forth to relieve any pressure.
- Slide frame AFT & up to remove from skid tube.
- Roll back to storage.

FAILURE TO FOLLOW ANY OF THE ABOVE PROCEDURES MAY CAUSE FAILURE OF THE UNIT AND CREATE HAZARDOUS TOWING CONDITIONS RESULTING IN DAMAGE TO THE AIRCRAFT AND CAN INJURE PERSONNEL AROUND THE AIRCRAFT

BDW-BELL-2A

TIRES – See Tire/Wheel Inspection

- Air pressure maintained at 130 PSI for STA 14 X 5.00/5 (14 ply).
- Grease wheel bearings every 12 months or as needed with wheel bearing grease Aeroshell #5.
- Replace tires when less than $^{3}/_{32}$" (2.4mm) tread.

FRAME

- Check all welds for cracks or deformities – For repairs call Brackett Aircraft.
- Secure all bolts.
- Paint areas of loose or missing paint to prevent rusting.
- Grease slides and guides every 12 months or as needed, USE AEROSHELL 64 (33 MS).

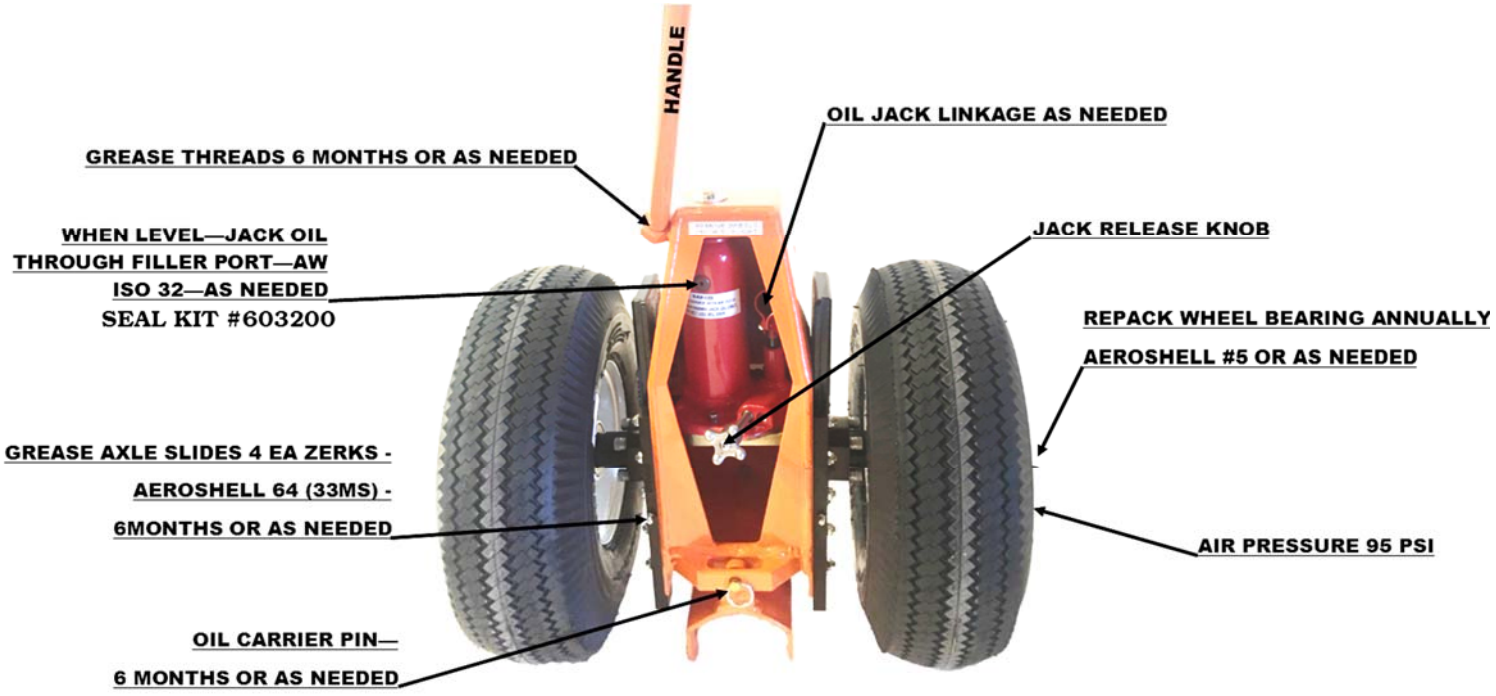
JACK – See Jack Preventative Maintenance

- Add AW ISO 32 Hydraulic Jack Oil as necessary using oil filler plug.
- Add oil up to bottom of hole when level.

It should not be necessary to refill or top off the reservoir with jack oil unless there is an external leak. An external leak requires immediate repair which must be performed in a dirt-free environment by qualified hydraulic repair personnel who are familiar with this equipment.

NEVER USE ALCOHOL, HYDRAULIC BRAKE FLUID, AIRCRAFT HYDRAULIC FLUID #5606 OR TRANSMISSION OIL IN THE JACK.

NOTE: The jack must be lubricated periodically in order to prevent premature wearing of parts. A general-purpose grease must be applied to the three rivets/bolts that are part of the handle receiver and pump assembly.



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WHEEL AND TIRE MAINTENANCE

Part Numbers: W-15066, W-18088, W-500510, W-500514

This section covers the removal, disassembly, inspection, reassembly, and installation of the wheel assemblies. When conducting wheel maintenance, observe the following general cautions:

- Careful handling of the wheel components will assure a long service life and trouble-free operation.
- Strictly observe the tire deflation and inflation procedures, and the torque values specified. Do not overtighten any bolt, nut, or fitting. Do not employ impact or power wrenches to remove or tighten any threaded parts.
- Handle the wheel bearing cones with extreme care. Many bearing failures can be traced to dropping or mishandling the cones during maintenance. Bearing cups and cones should be used as a matched set to provide maximum service life. Do not drive bearing cones onto the wheel axle, and never overtighten the axle nut.
- The wheel halves should be properly maintained to protect the paint and surface finishes; exposed aluminum/magnesium is susceptible to corrosion. Nicks, scratches, and other damage caused by improper handling of the wheel halves during maintenance invite corrosion which, if unattended, could lead eventually to fatigue cracks and wheel failure.

Wheel Removal from Frame Housing and Disassembly

1) Remove hubcap / wheel cover, if applicable.
2) Remove cotter pin and axle nut.
    a) Rock wheel / tire slightly to unset bearings and remove.
3) Place wheel / tire assembly on a clean flat surface.
4) Remove air from tire by depressing the valve stem plunger until air can no longer be heard escaping from the tire.

WARNING: DO NOT ATTEMPT TO REMOVE VALVE CORE UNTIL TIRE HAS BEEN COMPLETELY DEFLATED. VALVE CORES WILL BE EJECTED AT HIGH VELOCITIES IF UNSCREWED BEFORE AIR PRESSURE HAS BEEN RELEASED.

WHEEL AND TIRE MAINTENANCE

Part Numbers: W-15066, W-18088, W-500510, W-500514

5) Remove valve core.
6) Remove bolts, nuts, and washers holding the wheel halves together. Separate the inner and outer wheel halves and remove tire. Remove retaining rings and drive grease seals from wheel halves with a suitable drift. Remove bearing cones and store carefully to avoid damage or contamination. The bearing cup is a shrink fit into the wheel half and **SHOULD NOT BE REMOVED, UNLESS REPLACEMENT IS NECESSARY** due to scratches, nicks, pitting, corrosion, or evidence of overheating. If bearing cup replacement is necessary, place wheel half in an oven 212 degrees F for 20 minutes.
    a) Remove wheel half from heat source and immediately remove bearing cup. If bearing cup does not fall out, tap it evenly with a suitable drift pin or use a hydraulic press.

WARNING: WHEEL HALVES WILL REMAIN VERY HOT. PROTECTIVE GLOVES ARE REQUIRED.

Wheel Inspection

1) Visually inspect wheel halves for cracks, nicks, corrosion, or other damage. Any cracks in the wheel half are cause for replacement of wheel half. The tire bead seat area of a wheel is typically an area of stress concentration and possibly subjected to trauma from tire beads and tools used to remove tires. Special attention should be taken in this area when inspecting for defects. All defect indications must be thoroughly investigated to determine part airworthiness. Dye penetrant inspection and visual examination is an effective method to evaluate a defect indication. To facilitate the inspection process, it is recommended that the paint be stripped in the area being evaluated. Replace any cracked or excessively corroded parts. Small nicks, scratches, or pits may be blended out and polished with fine sandpaper. Treat and repaint to original condition.

2) Inspect wheel bearing cup bore for burrs, primer residue, or foreign matter. Make sure surface is clean. Inspect retaining ring and grease seals for distortion and wear.

3) Replace grease felts if they are hard or contaminated. Molded rubber grease seals should be replaced if cracked, dried out, or distorted.

WHEEL AND TIRE MAINTENANCE

Part Numbers: W-15066, W-18088, W-500510, W-500514

4) Wheel tie bolts must be inspected for cracks, bending, thread damage, or excessive corrosion. If any evidence is seen on bolt – replace.
5) Inspect self-locking nut for damage. If nut can be turned onto bolt by hand, past the nut's self-locking section, it should be replaced.

Wheel Assembly

Reassembly of the wheel assembly is essentially the reverse of the disassembly procedures. Assemble the wheel on a clean flat surface and be careful with components.

1) If bearing cup was removed, heat wheel half to 212 degrees F for 15 minutes and chill bearing cup -20 degrees F for no less than 4 hours.
2) Install the chilled bearing cup into bearing bore of heated wheel half. Tap with fiber drift evenly against shoulder seat. Avoid cocking bearing cup during installation.
3) Use Aeroshell #5 (or equivalent) to pack bearing cone and lightly grease felt seals. Properly greased bearings should have no voids between rollers. Then assemble into wheel half with snap ring – *SEE PARTS LIST*. Remove excess grease.
4) Make sure the inside of the tire is clean and dry. Wipe bead area with denatured alcohol, followed by soap and water.
5) Inflate tube just enough to round it out. Then install yellow strip adjacent to the red spot on tire. If no mark on tube, use red spot opposite of valve stem.
6) Install the tire and inner tube on outer wheel half, inserting the valve stem through the valve hole. Place inner wheel half inside the tire. Align the makes made at disassembly with those on outer wheel half.
7) Install bolts, washers on outside wheel half and the washers nuts on inner wheel half.
   a) Torque dry ¼ " 80 - 100 in-lbs
   b) Torque dry 5/16 " 190 - 210 in-lbs
8) Fill with air to recommended air pressure.

Tire/Wheel Inspection:

- Any tire, no matter how well constructed, may fail as a result of punctures, impact damage, improper inflation, overloading, or other conditions resulting from use or misuse. Tire failure may create a risk of property damage and serious personal injury. To reduce risk of tire failure, we strongly recommend you read and follow all safety information.

- Inspect wheels and tires for wear, cracks, cuts, or damage. Bumps or bulges may indicate separation within the tire body. A damaged tire can suddenly fail causing damage to property or serious personal injury.

- Inspect tire for adequate tread depth 3/32nd inch (2.4 millimeters).

Tire Inflation:

- Always keep tire inflated to the manufactures recommended pressure. Tire sidewall stamping information will tell you the recommended cold air pressure. Check tire inflation before moving aircraft.
  - Air Hawk 15 X 6.00 6 ply 68 psi
  - Air Hawk 18 X 5.50 8 ply 105 psi
  - Carlisle 5.30/4.50-6 6 ply 95 psi
  - Kenda 4.10/3.50-4 6 ply 75 psi
  - Kenda 4.10/3.50-6 6 ply 80 psi
  - STA 14 X 5.00-5 14 ply 130 psi
  - Air Hawk 5:00-5 10 ply 90 psi

- Use valve caps to keep valve cores clean, clear of debris and to help guard against air leakage.

- Under-inflated tires will cause damage leading to failure that could result in damage to property or serious personal injury.

- Over-inflated tires are more likely to become punctured, cut, or broken by sudden impact leading to failure that could result in damage to property or serious personal injury.

JACK PREVENTATIVE MAINTENANCE

- Always store equipment in a well-protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements. Jack must be cleaned of water, snow, sand, or grit before using.

- Jack must be lubricated periodically in order to prevent premature wearing of parts. A ***general-purpose grease*** must be applied to handle base pivot bolts, release mechanism and all other bearing surfaces.

- It should not be necessary to refill or top off the reservoir with hydraulic fluid unless there is an external leak. An external leak requires immediate repair which must be performed in a dirt-free environment by qualified hydraulic repair personnel who are familiar with this equipment. Use a high grade hydraulic/jack oil ISO 32 to add fluid.

IN ORDER TO PREVENT SEAL DAMAGE AND JACK FAILURE, NEVER USE ALCOHOL, HYDRAULIC BRAKE FLUID, OR TRANSMISSION OIL IN THE JACK.

- Inspect the jack before each use. Do not use the jack if any component is cracked, broken, bent, shows signs of damage, or leaks hydraulic fluid. Do not use the jack if it has loose or missing hardware or components.

- Do not attempt to make any hydraulic repairs unless you are a qualified hydraulic repair person that is familiar with this equipment.

Available Oil for Jack: Part No: AW ISO 32 QT

Available Seal Kits:

2 Ton Jack (W-429-15A)	3 Ton Jack (W-HUF-03D/EB)	8 Ton Jack (W-245-22D/F/G)
Part No: 602150	Part No: 603200	Part No: 608200