GUNNEBO JOHNSON
CORPORATION

PRODUCT WARNINGS AND INSPECTION INSTRUCTIONS

NOTICE: Any and all claims arising from the use of Johnson products are subject to the strict performance of all inspection and maintenance instructions outlined herein. All instructions apply to all products, as applicable.

- **OSHA REGULATIONS PROHIBIT TRANSPORT OF PERSONNEL ON THE LOAD OR HOOK ASSEMBLY. 1910,180-H-3-V**
- Gunnebo Johnson Products Distributors are instructed to furnish this information to all customers and users of Johnson products.
- This sheet is available on request free of charge in any quantity.
- Safety Caution Plate and Nameplate should never be painted over or removed. If rendered illegible or missing, contact factory for new plate(s).
- A copy of this instruction is shipped with every Johnson Blocks product or invoice line item.

BASIC POLICY ON REPAIR OF WORN OR DAMAGED ITEMS:

If for any reason an item does not work properly or is worn, and repair is desired, do not attempt to disassemble or repair. Return item prepaid to our Tulsa Plant for inspection and estimate of repair cost. (Contact plant in advance to discuss specifics, or to obtain factory authorization for field repair, if desired.) If, in user's opinion, conditions require reworking of item without returning to factory, or without obtaining factory authorization such rework or repair will be undertaken entirely at user's risk and cost.

LUBRICATION SCHEDULE:	Lubrication frequency under conditions of:	
	Continuous operation	Intermittent operation
Swivels & swivel balls	24 hours	14 days
Bronze bushed blocks & sheaves	8 hours	14 days
Roller bearing blocks & sheaves	24 hours	14 days

TYPE LUBRICANT: Either sodium or lithium base greases may be employed. Soda soap base greases are more fibrous and cohesive. Lithium soap base greases are excellent especially where excessive moisture is present.

REGULAR AND FREQUENT INSPECTION of all wire rope accessories is a must for safety. For Johnson Blocks products, all points listed below should be carefully observed, plus any others indicated by good field practice. Continuous surveillance and alertness is required under working conditions.

PERMANENT DEFORMATION (STRETCHING) on any part is a clear indication of overload. Part should be taken out of service immediately and replaced.

SWIVEL END PLAY (OR GAP) of more than 1/16" along the axis of a swivel is a danger signal. Remove from use immediately.

CHECK BLOCKS TO SEE IF SIDE PLATES ARE SPREADING. This is a sure sign of overload. Remove from service for repair.

ANY LOOSENESS IN PLATES on blocks with tie bolts or stress pins is a sign of possible loose retaining nuts. Remove cheek weights (if any) and follow instructions in section on "Anti-loosening" provisions.

SHEAVE ALIGNMENT CHECK: Uneven groove or flange wear is evidence of sheave misalignment. Check for wobbly or loose sheaves - this means bearing wear.

SHEAVE GROOVE WEAR: Check for striation or corrugations in sheave groove, caused by rope wear. These can be costly on your rope life. If seriously worn, sheave should be replaced.

LOAD HOOKS OR FITTINGS SHOULD BE INSPECTED FREQUENTLY: ANY DAMAGED HOOK LATCH should be replaced immediately. Inability to properly pin the Johnson J-latch into its locked position could indicate distortion or permanent deformation in the hook opening. If this condition should occur remove the hook from service immediately and contact the factory. **HOOKS OR LOAD FITTINGS MAY BE CHECKED** by magnafluxing, ultrasonic test or X-ray by a qualified source.

ANY HOOK OR FITTING with a crack, gouge, or distortion should be removed from service immediately. If any of these conditions should occur contact the factory for repair or replacement criteria.

HOOK AND NUT THREADS should be checked annually for corrosion or deformation. Severe duty or corrosive environments may dictate a higher inspection frequency.

HOOK NUT GALLING can occur if during disassembly foreign matter has gotten into threads. **A galled nut cannot be forced.** Please contact Gunnebo-Johnson factory if this condition should occur. Do not weld on a Gunnebo-Johnson hook or hook nut without prior factory authorization and instruction.

ANTI-LOOSENING PROVISIONS ON ALL NUTS AN SET SCREWS are vital.

► **For high-vibration applications,** including pile driving, (see section on Blocks, Cheek Weights).

► **Hook nut set-screws** are staked in place at factory. Check for signs of any loosening. If any, re-tighten and re-stake thoroughly. If in doubt, contact factory for provision of thread locking product (in addition to staking set-screw).

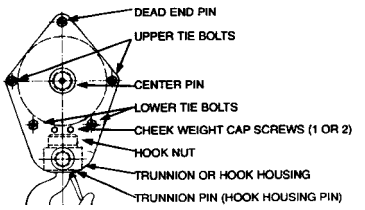
CHECK ALL NUTS FREQUENTLY for any signs of backing off due to vibration or other causes. If necessary, re-tighten any loosened nuts, following instructions below:

► **If center pin retaining nut,** see that section of this instruction.

► **If upper tie bolt nut,** retighten firmly and re-stake thoroughly.

► **If lower tie bolt or stress pin nut,** retighten nut firmly and
(a) re-stake if originally staked
(b) if held by set-screw, re-tighten set-screw to re-establish jamming action against threads.

► **If lower trunnion pin nut,** re-tighten nut firmly to point at which trunnion will just rotate, then re-tighten set-screw in nut as in above.



TYPICAL BLOCK SHOWING VARIOUS POINTS OF RETAINMENT

► **Set screws where used on side nuts of block** (center pin nuts, hook trunnion pin nuts, stress pin nuts, etc.) are jammed radially into the threads. Check set-screw for tightness, re-tighten firmly if needed to re-establish jamming action against threads.

NOTE: If center pin nut appears loose, or has backed off, follow tightening instructions in section on center pin retaining nuts. Then re-tighten set-screw in nut as above.

► **Staking of all block side nuts not having set-screws** (tie bolt nuts, small stress pins nuts, hook trunnion nuts, center pin nuts, etc.) must be checked to see if still in original orientation. If nut has backed off, re-tighten and re-stake thoroughly, following instructions on center pin retaining nuts if nut is of this type. If in doubt about integrity of re-staking, tack weld nut as follows:
(a) if center pin nut, weld nuts on both ends to side plate.
(b) if trunnion pin or stress pin nut, weld nut to pin.

► **Spirolox retaining rings** where furnished on ends of block center pins and hook trunnion pins, must be in place. If end of pin is grooved for Spirolox (rather than threaded for nut) and Spirolox is damaged or missing, do not resume work. Contact factory for replacement Spirolox.

► **Cotter pins** where furnished must remain in place. Replace any damaged or missing cotter pins before resuming work.

► **Set screws on swivel barrels** are staked in place at factory. Check for any signs of backing out. If any, re-tighten and re-stake thoroughly. If in doubt, replace swivel and return to factory for check.

► **Cheek weight cap screws.** Should always be tightened down, and locked either with (a) self-locking jam nut inside of side plate, or (b) lock-washer under head of cap screw (inside cheek weight counter-sink).

CENTER PIN RETAINING NUTS over-tightening may cause sheave bearing damage. *Do not alter factory setting without factory authorization. If emergency conditions require re-working of block without authorization from factory, the procedures below may be of assistance but will be undertaken entirely at user's risk and cost:*

► **Consult block nameplate** to determine sheave bearing type:

B or BB bronze bushing	R or RB roller bearing
G or GBB graphite bronze bushing	T tapered roller bearing
	S sintered bronze bushing

► **If tapered roller bearing,** tighten center pin retaining nut(s) until side play is eliminated from all sheaves, and nut(s) are tightened firmly.

► **For all other sheave bearing types,** running clearance of 1/32" at sheave hub is required. Approximately correct running clearance may be established as follows:
(1) tighten center pin retaining nut(s) until any one sheave cannot be rotated by hand.
(2) then back off on nut minimum amount to permit hand rotation of all sheaves.

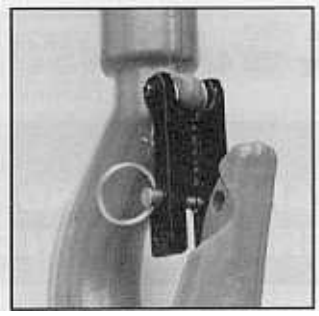
Continued on page 2.

Form B-045-10/99
P/N 51694

JOHNSON J-LATCH

Johnson's exclusive J-Latch is a uniquely engineered hook latch system providing outstanding flexibility and durability. Its heavy-duty design incorporates a steel beam that positively engages a special recessed area in the hook tip. The removable two-position pin allows the J-Latch to function either as a locked bar or as an automatic spring latch. The J-Latch meets OSHA requirements and is standard equipment on Johnson crane blocks through 165 tons, all Johnson overhaul balls and all swivels with hooks. The J-Latch is offered as an option on Johnson snatch blocks.

All Johnson block hooks with a J-Latch notch must be fitted with only a J-Latch to ensure proper fit. Inability to properly pin



the Johnson J-Latch into its locked position could indicate distortion or permanent deformation in the hook opening. If this condition should occur remove the hook from service immediately and contact the factory.

STANDARD HOOKS	A 5 TON	A 7 TON	A 15 TON	A 22 TON	A30 TON	40 TON	55-70 TON	80-100 TON	130-165 TON
LATCH KIT PART NO.	471782	471783	471784	471785	471786	471787	471788	471789	471790

NON J-LATCH KITS

The spring latch and Crosby G-5066 Flapper latch (shown below) are available for non J-Latch hooks. Latch selection should be made only after careful consideration of the hook rigging arrangement and reading of the **HOOK LATCH CAUTION.** Consult the following tables to determine hook configuration, latch selection, and kit number.

SPRING LATCH

CROSBY G-5066 FLAPPER LATCH

SPRING HOOK LATCH KITS

JOHNSON BLOCKS LATCH KIT PART NO.	5626	5622	5919	5503	6007	5533	5551	6432
PRODUCT FOR WHICH LATCH IS NEEDED	PRODUCT IDENTIFICATION: MODEL NUMBER, HOOK MARKINGS, OR RATED CAPACITIES							
SWIVEL HOOK MODELS BOTTOM SWIVEL OVERHAUL BALLS	3EH, 3EHM 3JH, 2JHM	5EH 5JH		9EH, 9HJ+ 12EH, 12JH		15EH 15JH	20EH 25EH, 30EH	
TOP SWIVEL OVERHAUL BALLS (W / EYE HOOK)	SWIVEL MODEL 3EJM OR 3JJM 4EE OR 4EJ "W.L.L. 3" "C" EYE HOOK	SWIVEL MODEL 7EE OR 7EJ "W.L.L. 5T" "C" EYE HOOK		SWIVEL MODEL 12EE OR 12EJ "W.L.L. 10T" "C" EYE HOOK		SWIVEL MODEL 19EE OR 19EJ "W.L.L. 15T" "C" EYE HOOK	SWIVEL MODEL 25EE "W.L.L. 20T" "C" EYE HOOK	SWIVEL MODEL 30EE "W.L.L. 25T" "C" EYE HOOK
MIDGET OVERHAUL BALLS (W / EYE HOOK)	"W.W.L. 3T" EYE HOOK	5 TONS W.L.L. EYE HOOK						
SHORTY "J" CRANE BLOCKS (W / W.L.L. RATINGS)	3 TONS W.L.L.	5 TONS W.L.L.		10-15 TONS W.L.L.		20-25 TONS W.L.L. 3 OR MORE S.H.V.S.	20-25 TONS 1 & 2 S.H.V.S. 30 TONS W.L.L.	
TYPE "H" CONSTRUCTION BLOCKS (W.L.L.) RATINGS ROLLER BRG. HOOKS	4 TONS W.L.L.	6 TONS W.L.L.		9-15 TONS W.L.L.		19 TONS W.L.L.	25-30 TONS W.L.L.	
SNATCH BLOCKS (SINGLE SHEAVE MODELS)	3 TONS W.L.L.	8 TONS W.L.L.	2 TONS W.L.L.		12 TONS W.L.L.	22 TONS W.L.L.	30 TONS W.L.L.	
SNATCH BLOCKS (DOUBLE SHEAVE MODELS)		8 TONS		15 TONS W.L.L.	12 TONS W.L.L.	22 TONS W.L.L.		
PIPELINE BLOCKS (ALL MODELS)				12-15 TONS W.L.L.		22 TONS W.L.L.		

+Prior to Block Serial No. B-37603 use P/N 5533 Latch

Continued from page 1.

► **Following instructions on anti-loosening provisions** of nuts and set-screws.

(1) Consult factory for hook nut thread locking product. During any vibration or shock load application, Johnson Blocks recommends a block, hook or ball substantially stronger than the "dead weight" load to allow for actual shock load values. Allowance for shock load is the responsibility of the user.

CROSBY G-5066 FLAPPER LATCH KITS

JOHNSON BLOCKS LATCH KIT PART NO.	3292	3214	1001	3190	3506	4940	4941*	4943*	4944*	4946*
PRODUCT FOR WHICH LATCH IS NEEDED	PRODUCT IDENTIFICATION: MODEL NUMBER, HOOK MARKINGS, OR RATED CAPACITIES									
SWIVEL HOOK MODELS BOTTOM SWIVEL OVERHAUL BALLS	3EH, 3EHM 3JH, 2JHM	5EH 5JH	9EH* 9JH*	12EH* 12JH	15EH 15JH	20EH 25EH,30EH				
TOP SWIVEL OVERHAUL BALLS (W / EYE HOOK)	SWIVEL MODEL 3EJHM OR 3JJM 4EE OR 4EJ "W.L.L. 3" "C" EYE HOOK	SWIVEL MODEL 7EE OR 7EJ "W.L.L. 5T" "C" EYE HOOK		SWIVEL MODEL 12EE OR 12EJ "W.L.L. 10T" "C" EYE HOOK	SWIVEL MODEL 19EE OR 19EJ "W.L.L. 15T" "C" EYE HOOK	SWIVEL MODEL 25EE "W.L.L. 20T"	SWIVEL MODEL 30EE "W.L.L. 25T" "C" EYE HOOK			
MIDGET OVERHAUL BALLS (W / EYE HOOK)	"W.W.L. 3T" EYE HOOK	"W.L.L. 5T" "C" EYE HOOK					HOOK NUMBERS			
							1002	1005 1007	1012 1013	1014 1015
SHORTY "J" CRANE BLOCKS (W / W.L.L. RATINGS)	3 TONS W.L.L.	5 TONS W.L.L.		10-15 TONS W.L.L.	20-25 TONS W.L.L. 3 OR MORE S.H.V.S.	20-25 TONS 1 & 2 S.H.V.S. 30 TONS W.L.L.	35-45 TONS W.L.L.	55-70 TONS W.L.L.	75-110 TONS W.L.L.	115-165 TONS W.L.L.
TYPE "H" CONSTRUCTION BLOCKS (W.L.L.) RATINGS ROLLER BRG. HOOKS	4 TONS W.L.L.	6 TONS W.L.L.	9 TONS W.L.L.	12-15 TONS W.L.L.	19 TONS W.L.L.	25-30 TONS W.L.L.	40 TONS W.L.L.			
SNATCH BLOCKS (SINGLE SHEAVE MODELS)					22 TONS W.L.L.	30 TONS W.L.L.	*NEW BLOCKS 25 TONS AND UP TAKE FLAPPER LATCH ONLY			
SNATCH BLOCKS (DOUBLE SHEAVE MODELS)					22 TONS W.L.L.					
PIPELINE BLOCKS (ALL MODELS)				12-15 TONS W.L.L.	22 TONS W.L.L.					

*** Crosby Hook only. If Vulcan Hook, Flapper Latch not available. For 20-25 ton single and double sheave blocks purchased before June 15, 1973. Flapper Latch will not clear side plates when hook is rotated. Do not order or use Flapper Latch on such blocks. Check with factory.**

⚠ CAUTION

Correct rigging and operation practices are vitally important an are the responsibility of the user to properly apply. Latches are not intended to support any live load nor overcome effects of improper rigging or handling.

HOOK LATCH CAUTION

Hook latches are to be used as retention devices to retain loose rigging under slack conditions. They are not intended to be anti-fouling devices, and caution must be exercised to prevent a latch from supporting any portion of a load. Periodic inspection of the latch must be made to insure it's proper operating condition. If damage to the latch occurs, the latch must be replaced immediately.

All latches are insignificant in strength compared to the actual hook. Fouling that results in temporary support of a load may occur without proper attention. Such fouling is extremely dangerous, and must be avoided by insuring that the rigging load is always properly seated in the hook and never in a position to foul the latch.

Latches can be held open or damaged by use of rigging too large for the hook saddle.

Latch becomes ineffective when wired open, and can be damaged when forced from below or from the side.

No claim is made that hook latches will consistently reseat a fouled sling or fitting back into the hook. Latches are not anti-fouling devices.

Johnson offers a screw-pin or safety anchor shackle, an economical and "completely closed" lifting device, for conditions when rigging fouling can occur. Such shackles, mounted in swivel tees may be ordered to replace shank hooks in Johnson Hook Blocks, Swivel Hooks and Type 3 Overhaul Balls. They are also available on a custom basis for top swivel Overhaul Ball Type 4.

BLOCKS, CHEEK WEIGHTS & OVERHAUL BALLS IN HIGH-VIBRATION OR SHARP BLOW APPLICATION

Johnson Blocks standard cheek weights and overhaul balls are made of cast iron, and are not designed as load bearing accessories. They are intended to provide downfall weight only, and are not designed to withstand high vibration or sharp blows.

Side nuts on Johnson Blocks are thoroughly staked to their bolts and pins, but are not designed to withstand high vibration applications. There may be a danger of their backing off.

In the event that high vibration applications such as pile driving or pulling, scrap handling or where a block may receive sharp blows, the following procedures must be followed:

- Remove the standard cast iron cheek weights and replace them with pipe spacers mounted on the tie bolts.
- If more weight is required, steel-plate weights are available.
- After re-assembling the block, the following welding steps must be followed:
  (1) Weld all tie bolt (cross bolt) nuts to tie bolt ends.
  (2) Tack weld center pin nuts, if applicable, to block to the side plates, of the block (do not weld nuts to center pin).
  (3) Weld hook housing (trunnion) end nuts, if any are outside of side plates, to the end of the housing pin (do not weld trunnion nuts to side plates).
  (4) Consult factory for hook nut thread locking product.

During any vibration or shock load application, Johnson Blocks recommends a block, hook or ball substantially stronger than the "dead weight" load to allow for actual shock load values. The size of allowance for shock load is the responsibility of the user.

⚠ OPEN WEDGE SOCKET CAUTIONS

Strength of wire rope is less than the strength of the wedge socket. WLL of the wire rope is sole responsibility of the customer and/or user.

Do not exceed working loads stated by wire rope manufacturer.

Make allowance for the wedge socket grip efficiency. The grip efficiency can reduce wire rope breaking strength by up to 20%.

After installation of the wire rope and wedge, seat the wedge by anchoring the wedge socket and applying the maximum allowable line pull to the wire rope live end.

A sudden jolt or impact may unseat the wedge. Therefore, the dead or short end of the wire rope shall be clipped with a U-bolt or otherwise made secure.

Wire rope clips used in conjunction with wedge sockets shall be attached only to the unloaded dead end of the wire rope. When a wire rope clip or other device is attached to the dead end of the wire rope, the spacing between the wedge socket and other device shall be in accordance with Gunnebo-Johnson requirements. Where it is desirable to restrain the dead end of the wire rope, it is allowable to have a loop, keeper, or other device around the live end of the wire rope provided it neither restrains no constrains the live end. Check frequently to re-tighten or re-position wire rope clips as necessary.

Each wedge socket body adapts to two or more wire rope sizes by using a specified wedge for each wire rope size. Use of any wedge other than the specified wedge will result in an improper and unsafe grip.

NOTE: Refer to the Gunnebo-Johnson General Catalog for complete safety recommendations, product specifications, working load limits, ratings and sling configurations. For additional information or questions, call:

1-800-331-5460

LIMITED WARRANTY

Notice to Customer:
Please read carefully. These terms and conditions contain disclaimers of warranties and strict limitation of liability and remedies.

Manufacturer warrants to the original wholesale or O.E.M. purchaser and/or to the original retail purchaser only that the goods, equipment or merchandise described herein will be free from defects in material and workmanship for a period of twelve (12) months from date of manufacturer's shipment. Effective with shipments after 1/1/1994 all standard J-Blocks have a (3) year warranty against defects in material and workmanship. Should the goods, equipment or merchandise prove defective within such (thirty six (36) months J-Blocks) twelve (12) month period, Gunnebo-Johnson Corporation will, at its option, repair or replace the same when returned to its plant, charges prepaid, provided that Gunnebo-Johnson Corporation is given written notice of such claimed defect promptly and is submitted, freight prepaid, with such twelve (12) month period for examination. Repair and/or replacement at the option of Gunnebo-Johnson Corporation shall be the sole and exclusive remedy of the buyer for breach of the above express warranty.

Except as expressly set forth herein, Gunnebo-Johnson Corporation makes no warranty either express or implied, that the goods, equipment or merchandise shall be merchantable or fit for any particular purpose or use, nor does it make any other warranty, express, implied or statutory. Gunnebo-Johnson Corporation shall have no liability for incidental, consequential, special, general or other damages arising from the use of its product including, but not limited to, failure of the goods, equipment, or merchandise to perform any general or particular function or purpose whether such damage or failure is due to mistake or deficiency in any design, formula, plan specifications, advertising material, printed instructions, defective materials, defective or improper assembly or otherwise, the sole liability of Gunnebo-Johnson Corporation being to repair or replace, at its option, defects in material or workmanship as stated in the preceding paragraph.

Gunnebo-Johnson Corporation shall not have any responsibility or liability for damage in shipment, during assembly, installation, erection, or that arising from accidents, abuse or improper operation of the goods, equipment or merchandise.

These terms and conditions shall supersede and, in case of conflict, shall have control over any other terms or provisions in any oral or written purchase order to other document pertaining to the goods, equipment or merchandise described herein, including any negotiations between parties or as suggested by any product catalog or descriptive literature. Nor does any distributor, dealer franchisee, independent sales representative or other person, firm or corporation have authority to assume any other obligations or liability on behalf of Gunnebo-Johnson Corporation, or to waive, modify or change these terms and conditions.

Engineering, product safety, inspection and maintenance information is included in the General Catalog and is available upon request free of charge. We agree, in performing the work required by any purchase order, not to discriminate against any worker because of race, creed, color, sex or national origin.

In the event of stoppage or partial stoppage of our plants or shipments of the items ordered by the customer due to causes beyond our control (such as, but not limited to: strikes, differences with workmen, fires, floods, accidents, scarcity of labor, materials, power, fuel, or transportation difficulties, war – whether in this country or abroad, government regulations, orders or proclamations, laws, acts of public enemies, mobs or rioters, (or acts of God) deliveries hereunder may be suspended or partially suspended, during the continuance of such interruption.

By acceptance of our sales order acknowledgement copy you accept all the terms and provisions heretofore set forth and agree that the delivery of the merchandise described in said order shall be subject to no other terms and conditions whatsoever unless additoinal terms are made the subject of negotiation and are covered by separate written acceptance by us.

Receipt of the acknowlegement by you without written objection to us within thirty days from the date or receipt of the merchandise described in said order shall constitute an acceptance by you of the terms hereof and an agreement that the delivery of the merchandise described in said order is subject to no other terms than those stated in this acceptance.

The provisions of this instrument shall be construed in accordance with, and the rights and liabilities of both the manufacturer and pruchaser shall be controlled by, the laws of the state of Oklahoma, U.S.A. in force as of the date of shipment by the manufacturer.

GUNNEBO JOHNSON CORPORATION

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(918) 832-8933 / FAX: (918) 834-0984

ISO 9001 REGISTERED FIRM

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