

# BE-6016 & BE-6020 BEADER OPERATOR'S MANUAL



BE-6016-20-CE  
08-2007

**LOCKFORMER**

A PRODUCT OF

**FORMTEK**  
More Productive Metalforming Solutions

## **WARNING**

**THIS EQUIPMENT IS DESIGNED TO BE OPERATED WITH ALL COVERS SECURED IN PLACE. OPERATION WITHOUT THESE SAFEGUARDS MAY RESULT IN CONDITIONS WHICH ARE HAZARDOUS TO THE OPERATOR AND OBSERVERS.**

## **SAFETY GUIDELINES**

**Before operating the machine, study and follow the safety precautions in this section. These precautions are intended to prevent injury to you and your fellow workers. They cannot, however, cover all possible situations. Therefore, EXERCISE EXTREME CAUTION and use COMMON SENSE before performing any procedure or operation.**

### **Safety Precautions BEFORE Starting The Machine(s)**

Only one person should control the machine(s). Never allow anyone to operate the controls while you are operating or working on this equipment. In addition to disconnecting power **always use lock outs and tagouts** to prevent accidental start-up when performing maintenance procedures.

Keep your hands away from internal workings of the machinery when starting, running or stopping.

Keep your work area clean. Remove all scrap, oil spills, rags, tools and other loose items that could cause you to slip, trip and fall.

When cleaning the machine or any of its components, do not use toxic or flammable substances. Do not perform any cleaning while the equipment is running.

Never override or disable any safety switch or safety interlock.

If so equipped, make sure that hydraulic and pneumatic pressures are at specified levels before operating this equipment.

**Do not operate the rollformer unless all covers and guards are in place.**

Be sure that this Instruction Manual is kept near the machine so the operator can refer to it when necessary.

Keep this equipment properly maintained.

Always turn off power to the machine(s) at the main disconnect before performing any maintenance or adjustments so accidental start-up or electrocution cannot occur.

## **Safety Precautions WHILE Operating The Machine(s)**

Never leave the machine unattended while it is under power or in operation.

Always be alert while operating machinery.

Be alert for loose, worn or broken parts. Do not attempt to operate any machinery with such parts present or if the machinery is making unusual noises or actions.

Be aware of the locations of the **Power Off** or **Emergency Stop** button in case of an emergency.

**Be sure all guards and covers are in place.**

Continually observe the rollforming process and related equipment. If any unusual condition develops, immediately stop and inspect the machine.

Protect yourself ! Wear safety glasses. Do not wear loose clothing, neckties, or jewelry. If long sleeves must be worn, avoid loose cuffs and buttons. Tie back and contain long hair.

Never adjust any roll feature or perform work near the rolls, gears or power take off while they are running.

### **General**

If any pneumatic or hydraulic feature is used, disconnect the main supply and exhaust pressure and bleed the lines to prevent cycling on retained pressure.

Always shut off the power at the main disconnect switch before entering the electrical control box.

Do not use compressed air to clean the machines. Air pressure may drive dirt and small chips into the machine(s) bearing surfaces or cause bodily injury.

**IMPORTANT** The information contained herein is to be use as a general guide only. For further safety information obtain and read the ANSI bulletin entitled: ANSI B11.12-1996 Rollforming and Roll-Bending Machines safety Requirements for Construction, Care and Use.

**CONTACT: American National Standards Institute  
11 West 42nd Street  
New York, New York 10036**

## WARRANTY

Our warranty on the products we manufacture is limited to repair or replacement without charge, of any part found to be defective in materials or workmanship. This warranty is for a period of one year (unless otherwise specified) from the date of shipment from our factory, for all mechanical features of the machine except purchased components that carry the warranty of the original manufacturer.

This warranty is conditioned on proper installation, maintenance and use of the equipment. The warranty will be void if the equipment is subjected to misuse or abused or if used beyond the standards in this manual, including material dimensions and gauge.

Warranty parts and components will be shipped freight collect from FORMTEK. If the defective part has not been returned to FORMTEK within 15 working days after receiving the replacement part, your company will be responsible for the cost of replacement.

The warranty provided in this clause is in lieu of all other warranties, express or implied, arising by law or otherwise, including the implied warranties of merchantability and fitness for a particular purpose which are hereby disclaimed by FORMTEK and excluded from this agreement. This warranty shall not be modified for any reason. In no event shall FORMTEK be liable for consequential or incidental damages, including the cost of assembly or disassembly, lost production or personal injury.



## CAUTION

**To provide clarity to points in question the illustrations and photos appearing in this manual are shown with covers and guards removed.**

**NEVER OPERATE THIS EQUIPMENT UNLESS ALL COVERS AND GUARDS ARE IN PLACE.**

The information in this document has been reviewed and is believed to be complete and accurate. No responsibility is assumed for minor inaccuracies or content not addressed in this manual. Furthermore, FORMTEK reserves the right to make changes to any products herein, at any time, to improve reliability, function, or design. FORMTEK does not assume any liabilities arising out of any use of any product described herein, nor does it convey any license under its trade secrets or patent rights nor the rights of others.

## SAFETY FIRST

Common sense and **extreme** care must be used at all times during the operation and maintenance of this equipment. It is important that ALL personnel who will operate, maintain, or supervise the use of this equipment, read and understand the sections of this manual concerning **SAFETY** and the **OPERATION** of the equipment.

The equipment described in this manual was designed and manufactured for a specific function. It should not be used for any other purpose or outside of the design specifications as this may result in damage to the equipment and/or injury to the operator. Modifications or additions to this equipment should not be made. Any such modifications or additions will void the warranty and may subject the operator to injury.

Replacement and maintenance parts must be purchased from FORMTEK or the component original equipment manufacturer. Use of other parts may result in unsafe operation or failure of the machinery. If there is a question to the suitability of a part, proper personnel FORMTEK should be consulted.

**In general, every piece of equipment must be treated with extreme care. While operating or maintaining this equipment, each individual must be aware of their own safety as well as the safety of all bystanders.**

## SAFETY SIGN-OFF SHEET

It is the employer's responsibility to instruct all persons who may come in contact with this equipment on the safe operation and maintenance of this equipment. If a language barrier or other restriction limits understanding, this manual can be read to the individual with appropriate follow up questions to verify understanding. Have each individual sign below only after demonstrating their understanding of the safety practices described in this manual.

**I verify that I have read and understand the safety and operation sections for this equipment:**

NAME	DATE	NAME	DATE

# SAFETY GUIDELINES



You are **NOT** ready to operate this equipment if you have not read and understood all of the safety information in this manual.



## WARNING:

Do not wear loose clothing, neckties, improper gloves, or jewelry while operating this machine. If long sleeves must be worn, avoid loose cuffs or buttons, Tie back or contain long hair.

Wear proper gloves to prevent lacerations caused by sharp edges of stock as it travels through the forming operation.

Never operate this equipment unless all covers and guards are properly installed.

Be alert for loose, worn, or broken parts. Never operate this equipment unless it is in good working condition.

As the stock enters the guides and feeds into the rolls, a pinch point is created as the stock advances. Keep hands clear of area and all pinch points.

Always disconnect the main power supply power and install lock outs using a lockout / tagout procedure when making adjustments or repairs.

When transporting, take into consideration that the machine is top heavy and may suddenly tip over. The machine is designed for fixed installations and are not intended for portability.

**Remember that the information contained in this manual is only a portion of an adequate training program. It must be coupled with specific instructions for your application along with full information of national and local safety regulations that may apply.**

### SOUND PRESSURE INFORMATION

**The Lockformer Rollformer described in this manual has been tested for noise DB levels. At normal operating distance the machine should be no more than 75DB.**



YEAR OF MANUFACTURE

# INSTALLATION

Provide a clean, flat, well lighted installation site. Level the machine and anchor it to the floor. Inspect the gears and drive assembly, and remove any debris that may have accumulated during shipping.

## ELECTRICALS

Standard electricals: motor 1.5 H.P. 110V

Provide a grounded 110V power supply at the point of operation. If a 230 or 380 volt motor is ordered, install the power supply in compliance with the local and national electrical codes. For further information contact a certified electrician or FORMTEK.

\*Electrical specifications (voltages) are specific to each region or territory.

## CAPACITY

BE-6020 Maximum 1.0mm (20 Gauge) mild steel and Galvanized steel.

BE-6016 Maximum 1.5mm (16 Gauge) mild steel and Galvanized steel.

# OPERATING INSTRUCTIONS

## BASIC OPERATION

Start the machine and push the material into the rolls while holding the edge of the material against the right or left entrance gauge. Standard bead is set 6" (150mm) from the edge and on 12" centers (300mm).

**Note:**

- Position the bead rings to the desired location by loosening set screws and sliding the ring.
- Adjust the bead depth by turning the hand wheel to obtain the desired bead.

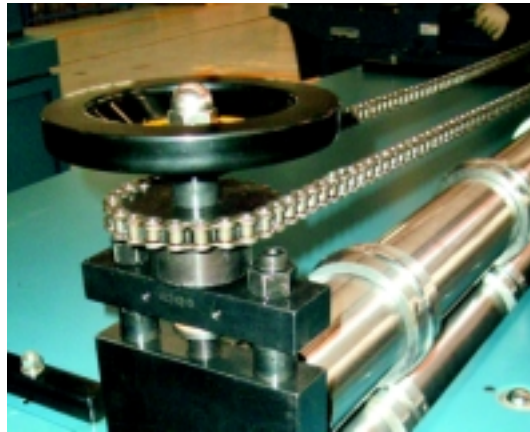
## BE-6016 Bead Depth Adjustment

Turn the handle to adjust the bead depth.

A clockwise rotation will tighten the forming tension and will result in a deeper bead.

Counterclockwise rotation and will reduce the bead depth.

**CAUTION!** Running the machine with the bead set too tight could overload the machine or stress the metal excessively which can induce bow. Another side effect of excessive bead tension may be twisted duct work.



## BE-6020 Beader Depth adjustment

Using a proper wrench turn the handle to adjust the bead depth. The BE-6020 does not have a chain connecting the right and left depth adjustments (as the BE-6016) so you will have to adjust both sides.

A clockwise rotation will tighten the forming tension and will result in a deeper bead.

Counterclockwise rotation and will reduce the bead depth.

**CAUTION!** Running the machine with the bead set too tight could overload the machine or stress the metal excessively which can induce bow. Another side effect of excessive bead tension may be twisted duct work.





## CURL (bow) Adjustment

Beads will sometimes induce a curl in the formed parts. The Exit Support will can effect the curl. If the part curl direction is down then adjust the Exit Support up. If the parts curl direction is up then the Exit Support may require lowering.



## BE-6016 BEADER BACK UP ROLL ADJUSTMENT (only on BE-6016)

Only the BE-6016 Beader has this adjustment.

To accommodate heavier (thicker) materials that the BE-6016 Beader is specified to form there is a back-up support bearings under the bottom beading roll. Removal of the back cover is required to access this adjustment. This back-up should make contact and apply slight pressure to the bottom roll. Increase the pressure by turning the adjustment clockwise to control deflection in the bottom roll.



## Entrance Gauge Bar Squaring

Be sure that the entrance gauge bar is square to the collars. To square the gauge bar, place a carpenter's framing square against the collars. Position the gauge bar against the 90 degree leg of the square and firmly fasten it in place.

## LUBRICATION

### Bearings

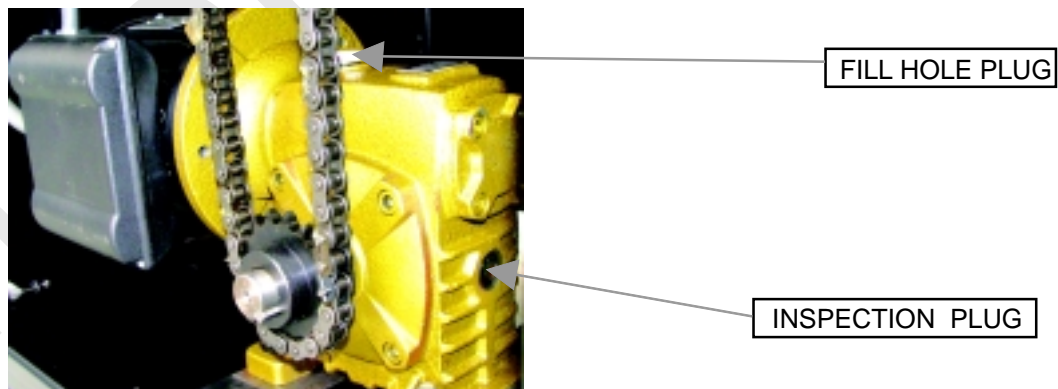
After every 40 hours of operation lubricate both grease fittings on each side of the machine with Castrol Molub-Alloy 777-1 ES grease or equivalent.

### Chain Drive

Proper maintenance is essential to minimize wear to the drive train components. Always keep chains clean and well lubricated to reduce friction and prolong the life of all load carrying components. Lubricate with light machine oil. Check the alignment of the sprocket and inspect all parts for abnormal wear frequently. Replace worn parts to prevent untimely component failure. Excessive vibration or noise usually indicates that a potentially serious problem exists.

### Gearbox

Keep the gearbox filled properly to assure trouble free operation. To check the oil level remove the inspection plug on the side of the gearbox. If oil level is not up to the hole, remove the filler hole plug in the top of the gearbox and add clean Texaco 220 Meropa oil or equivalent to achieve the proper level. Check lubricant level in speed reducer approximately every 3 months, more often under heavy use.



**BE-6016 & BE-6020 BEADER PARTS DIAGRAM**

FIG.1 BE-6020 PARTS



107H5  
SHAFT

441C3

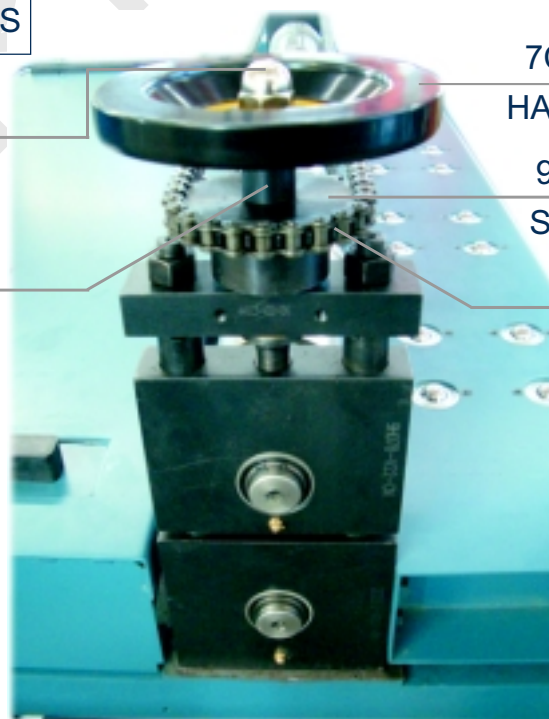
9H078

(2B674)  
2P211

FIG.2 BE-6016 PARTS

90591A220  
NUT

1405M



7C872  
HANDLE

96717A200  
SPROCKET

6261K533  
CHAIN

FIG.3 BE-6016 PARTS

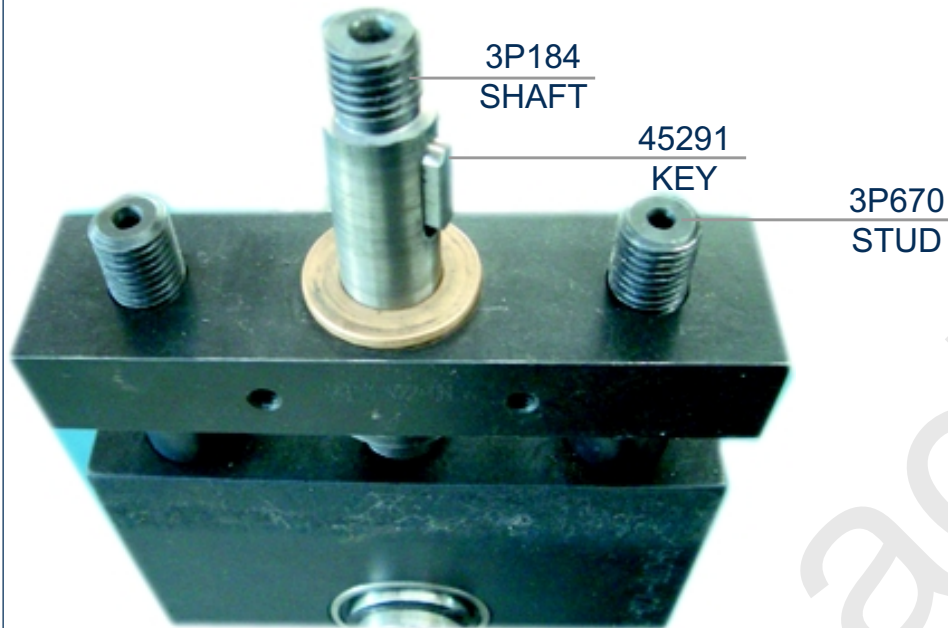


FIG.4 THRUST WASHER BE-6016 & BE-6020 PARTS

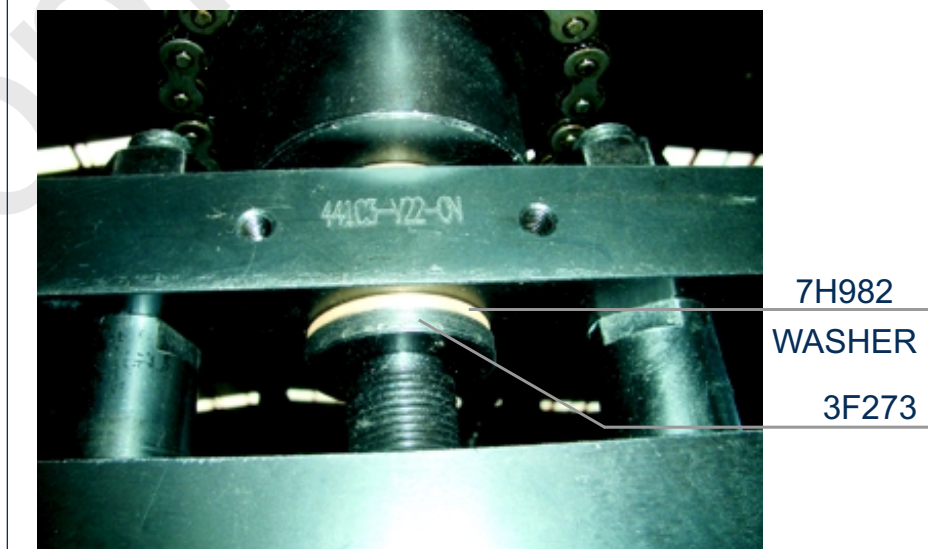
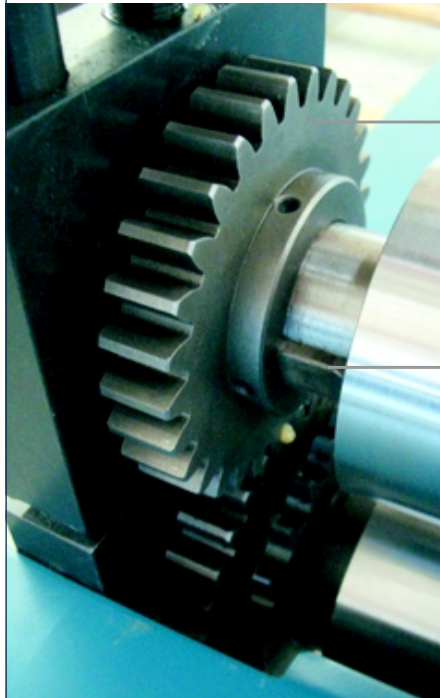


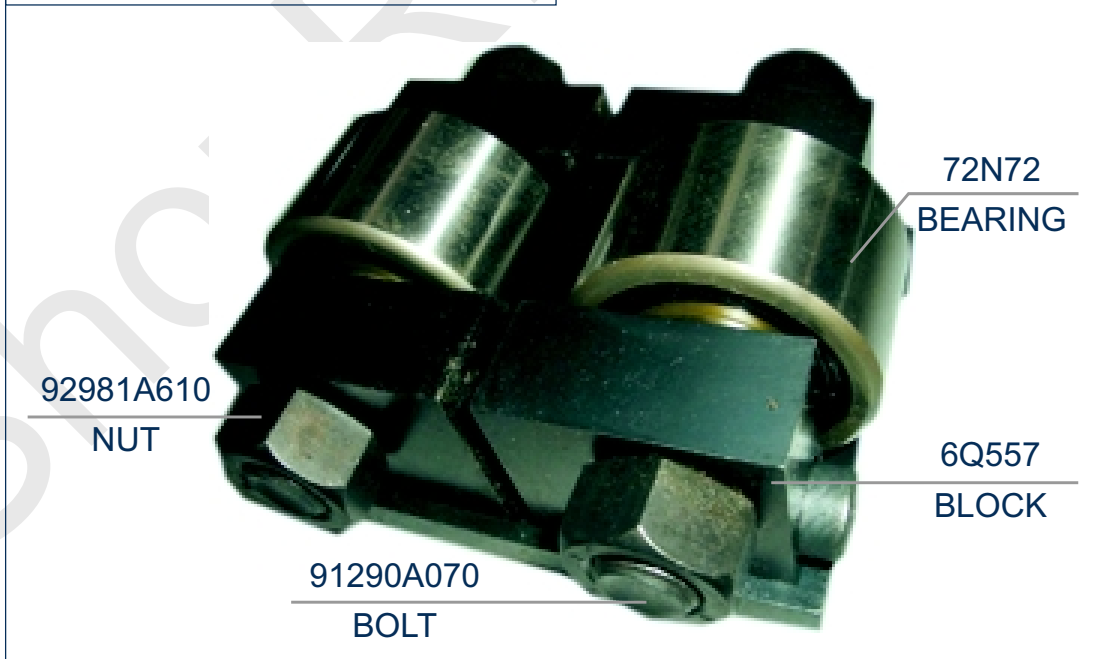
FIG.5 BE-6016 & BE-6020 PARTS



9B287  
GEAR

T1096  
KEY

FIG.6 BE-6016 & BE-6020 PARTS



72N72  
BEARING

92981A610  
NUT

6Q557  
BLOCK

91290A070  
BOLT



FIG.7 BE-6016 & BE-6020 PARTS



82S99  
BEARING

FIG.8 BE-6016 & BE-6020 PARTS



BP670

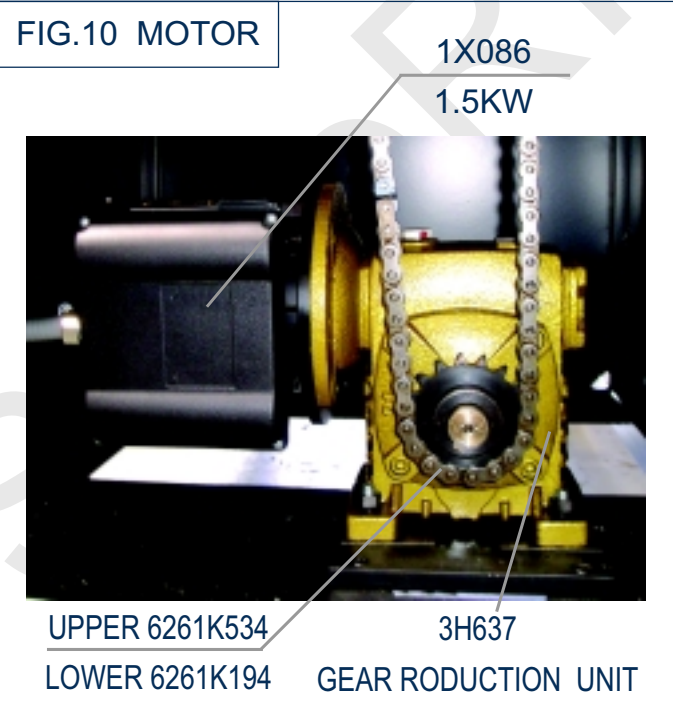
FIG. 9 BE-6016 & BE-6020 PARTS



FIG.11 BE-6016 & BE-6020 PARTS



FIG.10 MOTOR



Due to continuous improvements, FORMTEK reserves the right to modify the product design and specifications contained herein without notice. Please contact your Lockformer sales representative for the most current specification information.

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Visit Our Web Site at:  
**WWW.lockformer.com**  
or [www.formtekinc.com](http://www.formtekinc.com)

**USA**

Formtek Inc, 1 Pierce Place Ste. 400E Itasca IL, 60143  
Lockformer, 711 Ogden Ave, Lisle, IL, 60532

**China**

Formtek Machinery (Beijing) Co., Ltd. Beiqijia High-Tech Industrial Park,  
Changping, Beijing 102209



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