

FA91 RECEIVER

INSTRUCTIONS FOR ASSEMBLY AND MAINTENANCE

INTRODUCTION

Please read the following directions completely before attempting assembly of this part. If you do not understand any procedure or process, or if you are not qualified, do not attempt installation without a qualified gunsmith.

This receiver is sold as a replacement part only. Understand that if you are assembling a firearm as new, you are subject to laws and rules that govern firearm assembly, and we urge you to contact B.A.T.F. as well as your local and state agencies regarding the legalities concern this action. Be aware of the following:

- 1) Assembly of a firearm must be in compliance with all B.A.T.F. rules and regulations.
- 2) Excise tax is due and payable by you to B.A.T.F. when you manufacture a firearm. Contact B.A.T.F. regarding the excise tax process.
- 3) Assembly of this firearm must be in compliance with import laws and specifically, this firearm must not have more than 10 imported parts as described on page 5 of this manual.
- 4) Assembly of this firearms must also be in compliance with the semiautomatic assault weapon law (Crime Act of 1994). See page 5 of this manual.
- 5) Manufacture of this firearm must be in accordance with the NFA (National Firearm Act), section 922j of the Gun Control Act (GCA), state and federal laws.

WARRANTY

Federal Arms Corporation will warranty the replacement or repair of this part as a result of any manufacturing defect for the life of the part. Normal wear as a result of normal use will not be covered by this warranty. Damage as a result of firing this part in an out-of-headspace condition will void this warranty. Damage caused during assembly or manufacturing will not be covered and will void this warranty. Federal Arms Corporation shall not be liable for any damages that may occur while using this product and assumes no liability for the safe functioning of this firearm or the suitability of any part that may be assembled on to it.

TOOLS AND PARTS REQUIRED

DREMEL TOOL
1/8" CARBIDE CUTTING ATTACHMENT FOR DREMEL TOOL
HACK SAW
VISE
SCREW DRIVER (SLOTTED AND PHILLIPS)
WIRE BRUSH
HAMMER
PUNCH
1/8" DRILL BIT
5/32" DRILL BIT (PROVIDED)
DRILL (DRILL PRESS RECOMMENDED)
100 GRIT SAND PAPER
FILE OR GRINDER
LOCK TITE COMPOUND

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FEDERAL ARMS CORPORATION OF AMERICA

7928 UNIVERSITY AVENUE N.E.
FRIDLEY, MN 5543

Thank you for purchasing a firearm or accessory product from **FEDERAL ARMS CORPORATION OF AMERICA, INC.** Please report any serial number discrepancy or shipping error as soon as possible. Notify carrier of any damage that may have occurred during shipping.

DEALERS—PLEASE INSTRUCT YOUR CUSTOMERS AS FOLLOWS

- * ALL firearms are dangerous when handled improperly.
- * CLEAN AND VISUALLY INSPECT all firearms before firing.
- * INSPECT the safety mechanism carefully to assure that it will function properly.
- * **FEDERAL ARMS CORPORATION HAS NO TESTING FACILITY AND ASSUMES NO LIABILITY FOR THE SAFE FUNCTIONING OF ANY FIREARM OR THE SUITABILITY OF ANY ACCESSORY.**
- * Read the directions through completely before attempting the installation of any accessory or part. If you do not understand any procedure or process, or if you are not qualified, do not attempt installation without the assistance of a qualified gunsmith.
- * Due to the age, condition and diverse sources of surplus military firearms and parts, dimensional incompatibility may indicate that the installation of an accessory or part is not compatible or appropriate. The person that installs the accessory or part assumes all liability.
- * Always use common sense when handling firearms. Treat every firearm as if were loaded. Always point the muzzle in a safe direction, and keep your finger off the trigger until you have identified a target and have determined that it is safe to shoot.

The FEDERAL ARMS CORPORATION catalog of items offered for sale includes firearms (which are sold to FFL holders only), and accessories which require no special state or federal license to possess. Installation of an accessory may be covered by the National Firearm Act (NFA), section 922r of the Gun Control Act(GCA), or other applicable statutes.

It is the policy of FEDERAL ARMS CORPORATION OF AMERICA that any information you may receive directly or indirectly from anyone associated with FEDERAL ARMS CORPORATION OF AMERICA is only given with the explicit understanding that both parties have the underlying intent to comply with all applicable laws. Firearms and firearm accessories offered for sale are only offered in a manner or condition consistent with federal and state laws, and intended for the following purposes:

- *Repair of a legally possessed firearm.
- *Making of an ATF Form 2, or an approved ATF Form 1 firearm.
- *Construction of a non-functional replica non-gun.
- *Making of a weapon by, or for the benefit of, a government entity.
- *Completion of a NFA weapon using a registered receiver.
- *Possession of a collectible curio, ornament or relic.
- *Construction of a non-controlled art object.
- *Possession of non-controlled parts for future use in legally making a firearm in anticipation of change of laws by legislation or court ruling
- *Making of a weapon by a licensed manufacturer.

B.A.T.F. LETTER

DATED JULY 9, 1998

This is in response to your letter of June 29, 1998, to the Bureau of Alcohol, Tobacco and Firearms (ATF), in which you request certain information regarding a purposed U.S. made parts kit for imported semiautomatic SLG 95, SR-9 and other Heckler & Koch (HK) type sporter rifles.

Title 18, United States Code (U.S.C.), 922 (r) prohibits assembly of certain semiautomatic rifles and shotguns from imported parts. The implementing regulations in Title 27, Code of Federal Regulations (CFR) part 178, 178.39, provide that no person shall assemble a semiautomatic rifle or any shotgun using more than 10 imported parts listed in paragraph (c) of this section, if the assembled firearm is prohibited from importation under section 925(d) (3) as not being particularly suitable for or readily adaptable to sporting purpose. The 20 parts listed in paragraph (c) are listed below. Parts marked with * are used in the above-mentioned HK type rifles.

- (1) Frames, receivers, receiver castings, forgings, or stampings*
- (2) Barrels*
- (3) Barrel extensions
- (4) Mounting blocks (trunnions)*
- (5) Muzzle attachments
- (6) Bolts*
- (7) Bolt carriers*
- (8) Operating rods*
- (9) Gas pistons
- (10) Trigger housing*
- (11) Triggers*
- (12) Hammers*
- (13) Sear*
- (14) Disconnectors
- (15) Buttstocks*
- (16) Pistol grips*
- (17) Forearms, handguards*
- (18) Magazine bodies*
- (19) Followers*
- (20) Floorplates*

On April 6, 1998, HK style rifles having an ability to accept a large capacity magazine were prohibited from importation under the provisions of section 925(d)(3).

Any such firearms that were lawfully imported or lawfully assembled prior to April 6, 1998, may still be lawfully possessed. However, it is now unlawful to assemble such firearms using more than 10 imported parts as provided in section 178.39.

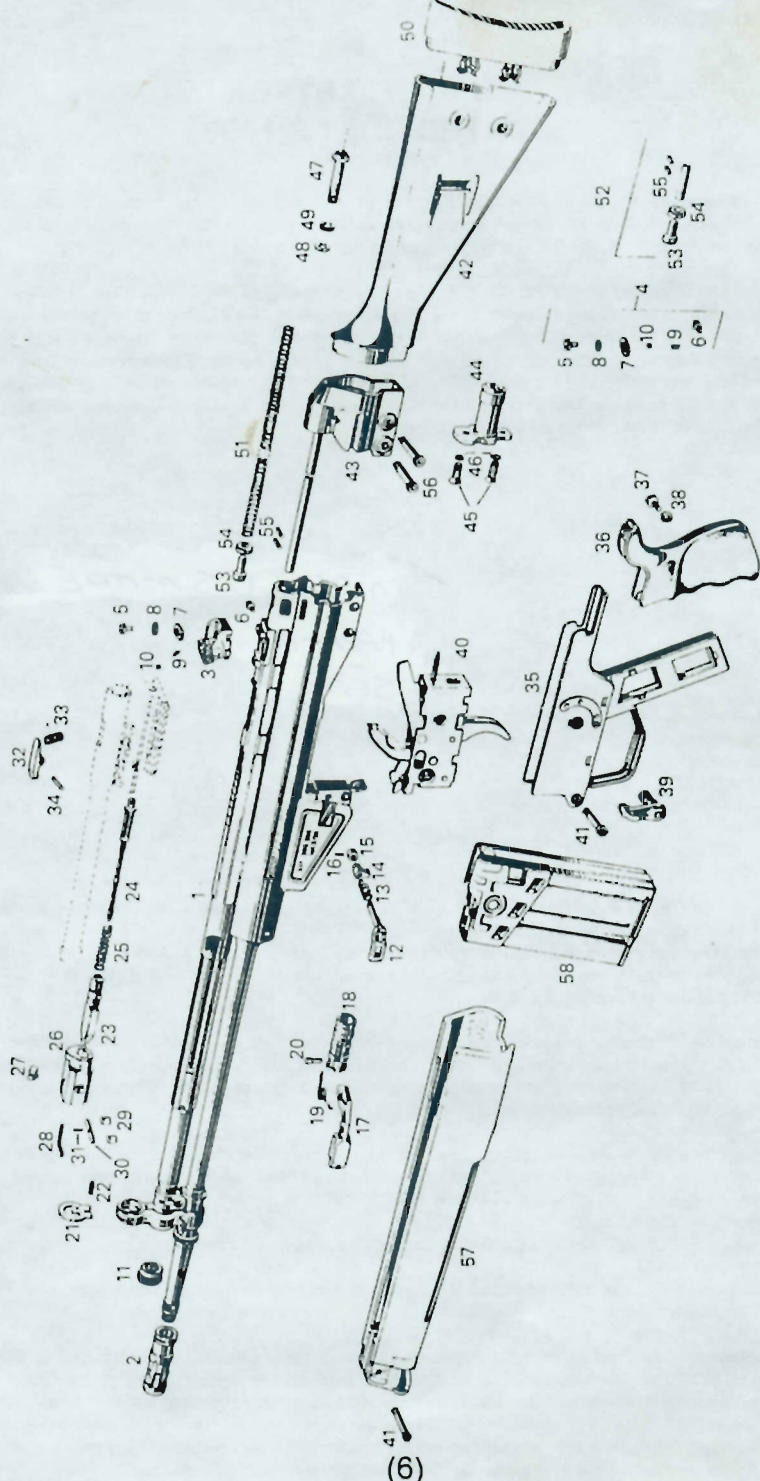
Based on the information that you provided, it appears that installation of a U.S. made (Handguard), pistol grip, trigger, sear, and (hammer), as you described in your letter, would result in assembly of a rifle with only 10 of the listed parts and would not constitute a violation of section 922(r). However, installation of any additional imported parts...would be unlawful.

In addition to the above, we would caution you that a semiautomatic rifle having an ability to accept a detachable magazine and at least 2 of the following features would be a "semiautomatic assault weapon" as that term is defined in 18 U.S.C. 921(a)(30)(B):

- (i) a folding or telescoping stock;
- (ii) a pistol grip that protrudes conspicuously beneath the action of the weapon;
- (iii) a bayonet mount;
- (iv) a flash suppressor or a threaded barrel designed to accommodate a flash suppressor; and
- (v) a grenade launcher

It is unlawful to manufacture, transfer, or possess a semiautomatic assault weapon except as provided in 18 U.S.C. 922(r). A semiautomatic assault weapon that was lawfully possessed on the date of enactment of this subsection (September 13, 1994) may still be lawfully possessed and transferred. An unmodified SLG 95, SR-9 or other similar HK type sporter rifle has only one of the qualifying features (the pistol grip); therefore, they are not "semiautomatic assault weapons" as defined and they do not meet the exemption even if they were originally manufactured prior to September 13, 1994.

end of letter



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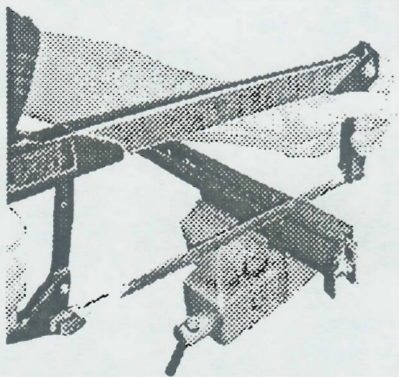
Item	Parts Designation	
	1	2
1	Barrel with receiver, cocking lever housing and magazine release lever	
2	Flash hider, compl.	
3	Rotary rear sight	
4	Spare parts set to rotary rear sight, comprising:	
5	Clamping screw	
6	Windage adjusting screw	
7	Washer	
8	Toothed lock washer	
9	2 Compression springs for ball catch	
10	2 Balls	
11	Cap, compl.	
12	Magazine catch, compl.	
13	Compression spring for magazine catch	
14	Contact piece for magazine catch	
15	Push button for magazine catch	
16	Clamping sleeve	
17	Cocking lever	
18	Cocking lever support	
19	Cocking lever elbow spring	
20	Cocking lever axle	
21	Front sight	
22	Clamping sleeve	
23	Locking piece	
24	Firing pin	

Item	Parts Designation	
	1	2
49	Spring washer	
50	Butt plate	
51	Recoil spring	
52	Spare parts set to back plate, comprising:	
53	Recoil spring stop pin	
54	Recoil spring guide ring	
55	2 rivets	
56	Butt stock locking pin	
57	Handguard	
58	Magazine	
59	Slings	
	Parts differing from the standard version (subject to contract concerned)	
70	Bayonet mount	
71	Handguard with mount	
72	Multi-purpose carrying sling R3/1	

Item	Parts Designation	
	1	2
25	Firing pin spring	
26	Bolt head, compl.	
27	Extractor	
28	Extractor spring	
29	Locking roller	
30	Holder for locking rollers	
31	Clamping sleeve 2 x 8,9	
32	Bolt head locking lever	
33	Compression spring for bolt head locking lever	
34	Cylindrical pin	
35	Pistol grip	
36	Grip	
37	Lenshead cylindrical screw	
38	Toothed lock washer	
39	Fire selector lever, compl.	
40	Trigger housing, compl.	
41	Locking pin for pistol grip and handguard	
42	Butt stock	
43	Back plate, compl.	
44	Buffer	
45	Countersunk screw, self-locking	
46	Toothed lock washer	
47	Buffer screw, self-locking	
48	Toothed lock washer	

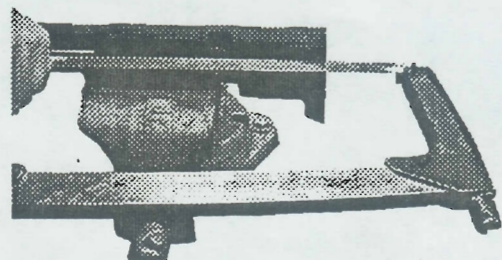
G3 parts preparation

G3 parts kits typically come with the barrel and cocking handle tube still attached to a portion of the old sheet metal receiver. We will describe this part as the "old receiver assembly". Place the old receiver assembly into a vise with the cocking handle tube up. You will now need to scribe two marks on the



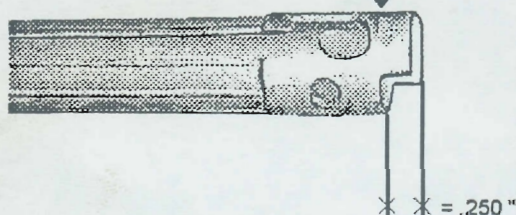
cocking handle tube and front sight assembly. Scribe a mark, parallel to the barrel, across the sight assembly onto the cocking handle tube. Next, scribe a mark around the tube, at the point it enters the rear of the sight assembly. The marks will be used later to position the tube during re-assembly of the tube into the new receiver. The next step will be to cut the cocking handle tube from the old receiver. Use a hack saw to make the cuts. You will need to make three cuts. The first cut will be made behind the weld area, on the receiver side of the weld. This cut will be at a 90 degree angle (perpendicular) to the barrel. Locate the cut behind the weld area .250", not to exceed .300" (see photo detail of the enlarged picture of the cocking handle tube after it has been removed). The second and third cuts will be along the bottom of the cocking handle tube area where it meets with the

trunion, alternatively this could be described as the area where the small radius meets the larger radius. Cut both sides along the length of the old receiver, parallel to the barrel, this will allow the cocking handle

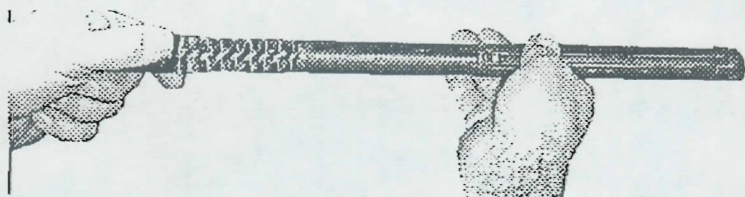


tube to detach from the trunion area. The extra length of the cocking handle tube behind the weld area will insert into the new receiver and "float in position". The attachment of the cocking handle tube will be accomplished by using the black aluminum plug provided with your receiver kit. This plug will be inserted into the face of the cocking handle tube and sight assembly and provide a secure method of attachment. This will be done at a later time.

WELD AREA



At this time deburr the exterior of the cocking handle tube as well as deburr the interior of the tube. Using a wire brush clean and scrape the interior of the front of the cocking handle tube, making sure that the interior is free of dirt and is thoroughly degreased, this will allow for the aluminum plug to bond to the cocking handle tube.



See photo. Make sure that the cocking tube inserts freely into the face of the new receiver, up to the cocking handle

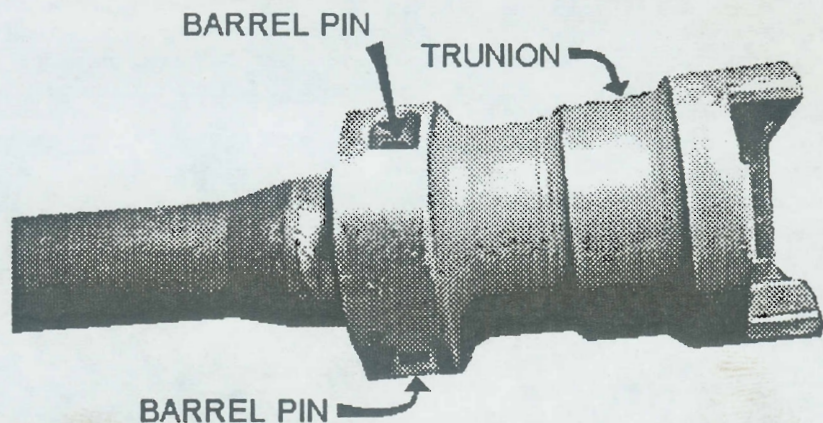
knotch area. If this does not fit, continue to dress the outside diameter until it fits freely into the receiver, the proper diameter should be .900".

The next step is to remove the remaining portion of the old sheet metal receiver still attached to the trunion. Use a large slotted screw driver to peel away the old receiver. After removing the old receiver, use a grinder or hand file to grind the face of the four exposed spot welds until they are flush and smooth with the rest of the trunion.

G3 trunion and cocking handle tube preparation

At this stage you have removed the old receiver from the barrel trunion and have carefully cut away the cocking handle tube to the dimensions required. Take time at this point to examine the cocking handle tube to make sure that the tube is straight and does not have any dents or bends and that the cocking handle support moves freely through out the cocking handle tube. Install the cocking handle support into the cocking handle tube and assemble the cocking lever with the cocking lever spring using the cocking handle axle pin. Once assembled, test the cocking handle movement making sure it does not bind as it travels back and forth in the tube.

The G3 and HK91 style rifles have their barrel installed within a larger block of steel called the trunion. The trunion is also responsible for the lock up of the bolt into battery, and determines the head space. The trunion is attached to the barrel with a pin, called a barrel pin. Installation and assembly of the new receiver will not require the removal of the barrel pin. The barrel pin has been inserted through the bottom half of the trunion. To better aid in the insertion of the barrel pin and to allow for ease of manufacturing, the trunion has had two flat spot machined into it. The new FA91 receiver will utilize the flat spots already machined into the trunion. You will drill two holes and insert two pins into the trunion to properly secure it to the new receiver. The holes you drill will be 90 degrees relative to the barrel pin. The pins that you will install will be referred to as the trunion pins. Because of inconsistencies during the assembly process of the barrel and trunion, the manufacturer has often left the barrel pin at various lengths that extend beyond the trunion. This could be a problem as you attempt to drill your trunion pin holes. If the trunion pins make contact with the extended portion of the barrel pin you would be unable to drill into the barrel pin because it is very, very hard. To prevent any problem you must grind the face of



the barrel pin down to a level flush with the trunion. We recommend a 1/8" diameter carbide cutter attachment and the use of a dremel tool. See photo.

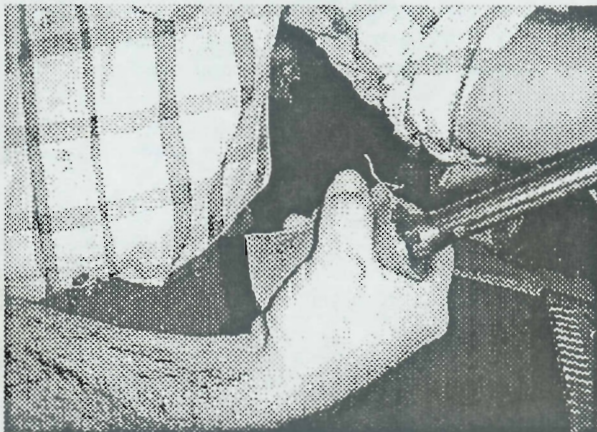
G3 part preparation continued

Once the barrel pin has been ground flush on both sides of the trunion. After this step is finished



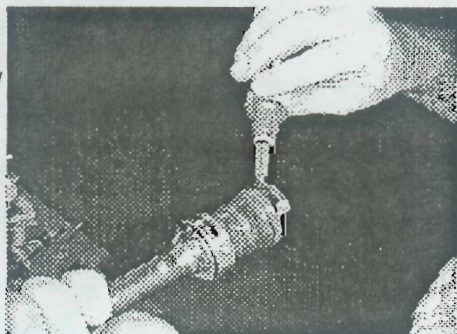
then use a hand file to flatten and smooth over the spot weld areas, providing for a smooth concentric outer radius around the trunion. The trunion should fit tightly into the new receiver but should not present too much resistance.

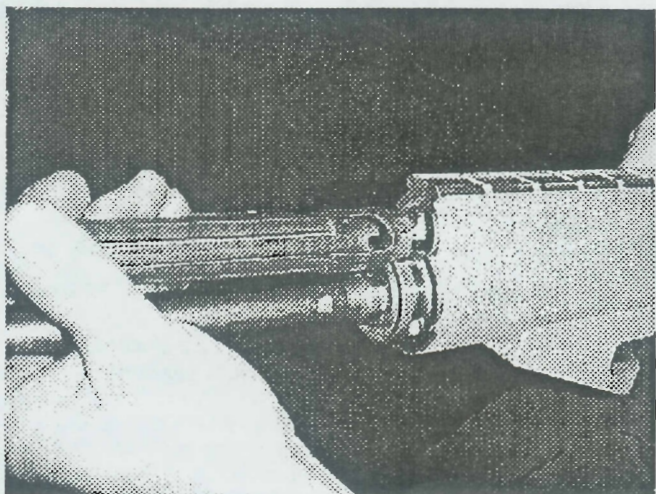
With 100 grit sand paper roughen up the exterior surface of the trunion, this will allow better adhesion for the lock tite compound. You must clean and prepare the surface of the trunion. Use a degreasing compound like acetate or alcohol and



clean the exterior surface of the trunion. The function of the lock tite is to hold the trunion in place during the drilling and pinning part of the assembly process and is not intended to provide a structural benefit. Now apply lock tite compound evenly around the exterior of the trunion. Line up the cocking handle tube assembly and slip it into the face of the new receiver. Visually refer-

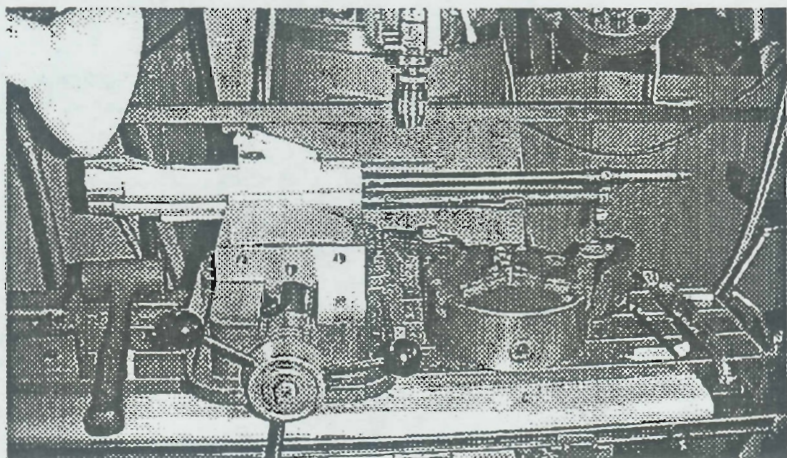
ence the front site post, it must be level and straight. Slide the barrel assembly, with the cocking handle tube attached, into the face of the new receiver. A dead blow hammer can be used on the muzzle end of the barrel, to seat the trunion all the way against its final resting position, which is flush against the internal rails.

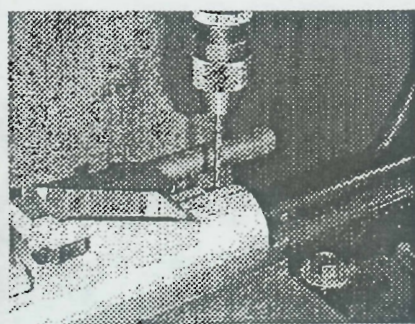
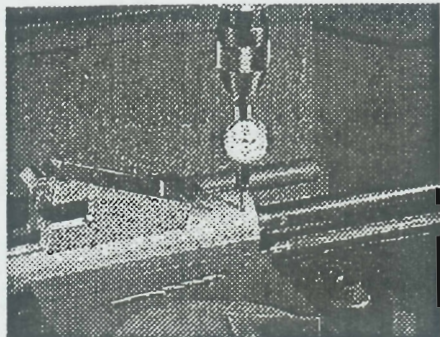




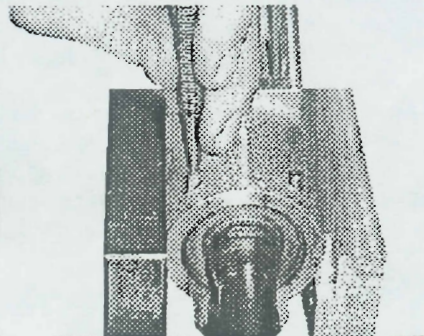
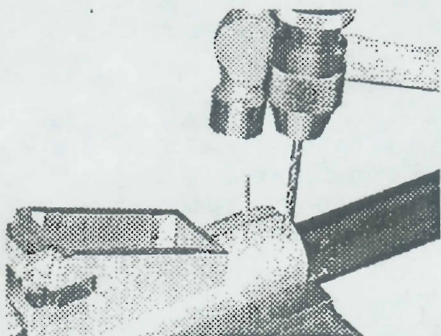
To determine that the barrel trunion is "timed" correctly, and the front site is properly aligned, shine light into the ejection port. To illuminate the barrel trunion and the rails of the receiver, observe that the trunion is concentric and level with the rails in the receiver. Also, check to see that the trunion has moved all the way back to its rear-most position flush to the machined surface of the face of the rails in the receiver. Allow 24 hours for the lock tite to cure.

The next step will be to drill and pin the barrel trunion to the new receiver. First, place the new receiver upside down resting on the flat portion of the scope rail in a heavy duty machine vise. Do not apply an excessive amount of clamping force, just enough to hold the receiver in place for drilling. The holes should be located by using the predrilled starter holes. The dimension from hole to hole should be within 1.250"-1.255".

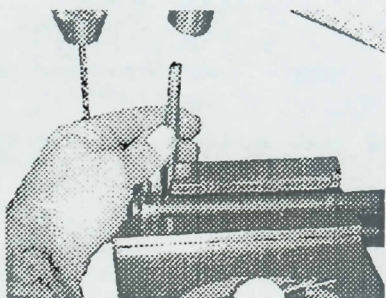
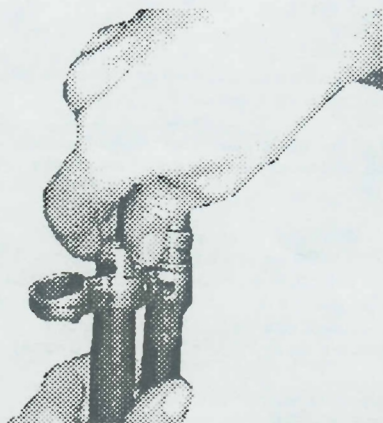




Using a sharp 5/32" drill (provided) drill the first hole through the new receiver. Use cutting oil and reverse the drill often to eliminate the extra chips, drill .100" at a time then reverse out the drill to reduce build up. Hole depth is approximately 1 1/2", drill all the way through the receiver. While drilling you may hit a hard spot, slow down your speed and use more coolant and a heavy feed pressure. The hard spots occur due to the spot welding of the old receiver during assembly. Clean out the new hole of chips. Now drive the pin into the first hole far enough to prevent the trunion from rotating while you drill the other hole. Make sure that the groove portion of the pin is at the back (the side that you are hammering on) and that you do not drive the groove portion of the pin in first. Once the second hole is drilled, hammer in the second pin. Use a punch to drive the pins until they are flush with the receiver body.



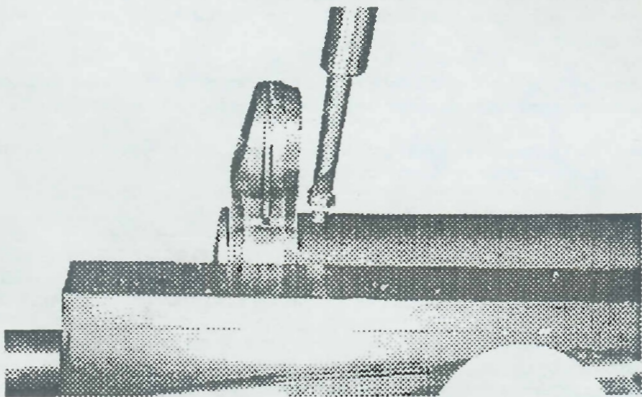
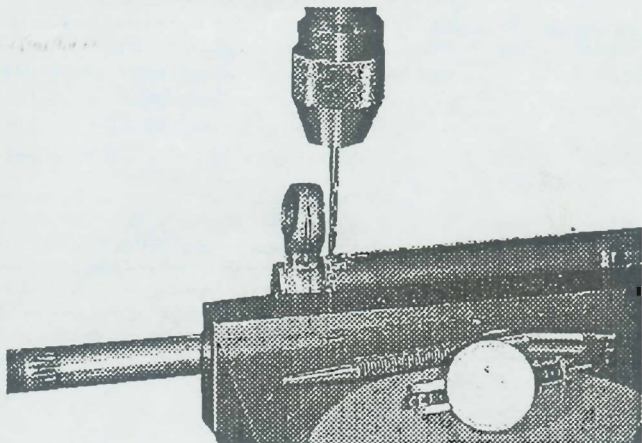
Now that the barrel trunion has been installed you can affix the cocking handle tube. First ream out the existing hole on the side of the sight assembly, this hole was used for the spring latch retainer that held the old cocking handle tube cap, this cap will not be used. Instead you will insert the aluminum plug provided. Ream with a #19 drill or other reamer to open the hole large enough to allow the installation of the screw provided (the aluminum plug is tapped for the screw provided, do not use the self tapping screw, you will use this screw elsewhere). Now apply locktite to the aluminum plug and insert the plug into the face of the cocking handle tube, making sure to align the tapped hole with the existing hole in the side of the sight assembly. A dead blow hammer can be used to insert the plug all the way into the tube. Now check to verify that the cocking handle groove is at a 90 degree angle to the sight post, and that your scribed marks line up on the front of the cocking handle tube. Once the plug is inserted, insert the screw and tighten.



Now use a 1/8" drill bit to drill a hole in the top of the cocking handle tube to insert a screw to hold the cocking handle tube to the plug.

Place the hole just far enough away from the iron site to allow enough clearance for the head of the screw. Use a punch as shown in the above photo to locate your position to drill.

To properly assemble the magazine release you must take the magazine release spring and stretch it so that it retains a length of 1" in its resting position. Insert the magazine release spring into the magazine release hole in the receiver, then insert the magazine release and attach the magazine release button with the spring pin included in your parts kit. We do not use the G3 paddle parts (the paddle style mag. release system that protrudes beneath the receiver) when assembling this receiver. Now assemble the rest of the firearm.



MAINTENANCE INSTRUCTIONS AND FUNCTION TESTING

The rifle should be unloaded and the safety engaged. Clean the barrel, cocking lever tube and magazine release lever and check the assemblies and subassemblies for proper seal.

Clean and oil receiver, barrel extension, and barrel. Also, oil the rear exterior of the receiver (the area where the buttstock assembly slides over the receiver) this will help prevent damage to the painted exterior surface of the receiver when you slide it on and off.

Check function of cartridge feed and ejection, trigger mechanism and safety by pulling back cocking lever. The cocking lever must engage smoothly in the recess in the cocking lever housing. Rearward motion of the bolt must be friction-free. When releasing the cocking lever, a practice cartridge must be properly chambered. When pulling back the cocking lever, a practice cartridge must be properly ejected. With the safety lever in position "E" (fire) it must be possible to squeeze the trigger and to overcome the let-off pressure without any restrictions. The safety lever must securely engage the position "S" (safe).

An important feature to test is head space. This can be accomplished by first removing the magazine and making sure that the bolt is completely seated in battery. Use a feeler gauge and insert it into the gap between the bolt head and bolt head carrier. This area is visible by tipping the rifle over to expose the magazine well area. Look into the magazine well and you will see the bolt and bolt carrier. The proper gap should be between 0.1 and 0.5 mm. It may not be possible to introduce the feeler gauge 0.5mm. If the gap will not allow any of the feeler gauges to be inserted the rifle is out of headspace and is worn out. Firing the rifle under this condition is dangerous, and may result in damage to the rifle. Firing the rifle out-of-headspace will void the warranty of the receiver.

SIGHTING-IN OF THE RIFLE

Place the rear sight in position "2". Using a sight in distance of 100 meters adjust the point of impact and zero in as follows.

Elevation adjustment:

Insert elevation adjustment tool into the rear sight cylinder so that the wedges of the tool engage the two slots in the cylinder which contain the catch bolts. Press a Phillips-head screwdriver downward into the adjustment tool and hold firm. Turn the rear sight cylinder manually in the desired direction. Turning clockwise lowers the point of impact 3.3 cm (1.29 in.) per click at 100 meters (109 yds.), turning counter-clockwise raises it correspondingly. After making the corrections withdraw the Phillips-head screwdriver and remove elevation adjustment tool. The catch will re-engage in the slots. After performing the elevation adjustment set the desired aperture again.

Windage adjustment:

If the point of impact is at the left: Loosen clamping screw on the top of the sight base. Turn adjusting screw on the right side counter-clockwise in accordance with the required correction. Then retighten clamping screw.

If the point of impact is at the right: Loosen clamping screw. Turn head adjusting screw clockwise until the required correction has been performed. Then retighten the clamping screw.

Note: Each revolution of the adjusting screw moves the mean point of impact 13.2 cm (5.19 in.) to the left or right at a range of 100 meters (109 yds.).

TIPS

*IF THE SHEET METAL PORTION OF THE BUTTSTOCK ASSEMBLY IS DIFFICULT TO SLIDE ON AND OFF, TRY LUBRICATING THE EXTERIOR OF THE RECEIVER IN THIS AREA, THIS WILL ALLOW FOR LESS WEAR ON THE FINISH AND ALLOW FOR EASE OF ASSEMBLY.

*IF THE BUTTSTOCK STILL IS DIFFICULT TO SLIDE ON, EXAMINE THE SHEET METAL PORTION FOR BENDS OR DISTORTION, WE HAVE NOTICE THAT MANY OF THE G3 PARTS KITS HAVE BUTTSTOCK ASSEMBLIES THAT HAVE BEEN BENT OR CRUSHED DURING SHIPPING AND STORAGE. YOU MAY HAVE TO BEND OUT THE SIDES OR TOP OF THE SHEET METAL STAMPING TO FIT PROPERLY ONTO THE RECEIVER.

*CLEAN AND DEGREASE THE RIFLE AFTER EACH SESSION OF SHOOTING, AND OIL ALL PARTS BEFORE STORAGE.

MODIFIED SEMI-AUTO TRIGGER

