

2002-2003 GL1800/A Frame Weld Safety Recall

Frame Welding Manual



GL1800 Frame Welding Procedures

(American Honda Motor Co., Inc. recommended procedures)

IMPORTANT: Read this entire booklet before welding.

Tools and Supplies

The following tools and supplies can be purchased from a local supplier. We are including Mc Master-Carr Book 109 part numbers for your convenience.

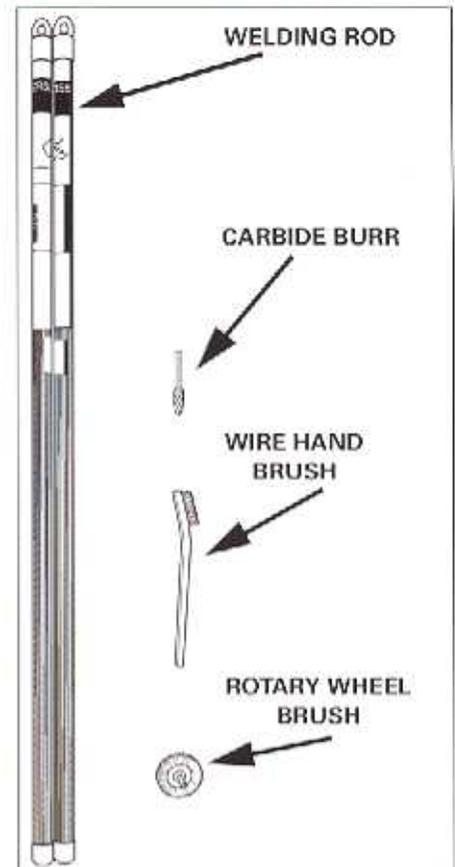
- Furniture blankets (or other thick, non-abrasive padding)
- Appropriate welding safety equipment
- TIG Welder capable of 200 Amps
- Pneumatic die grinder
- Aluminum TIG welding rod #5356
 - 3/32" Welding Wire } We recommend Lincoln #5356.
 - 1/8" Welding Wire }
- New, non-contaminated 2" Stainless rotary wheel brush
Mc Master-Carr #7077A37
- Ø1/2" x 1.0" Carbide Burr (Tree-style with radius end)
Mc Master-Carr #4295A32
- New, non-contaminated stainless steel wire hand brush
Mc Master-Carr #4800A52
- Acetone

Templates Needed (from the Honda dealer)

- Grinding Template
- Ground Clamp Bracket
- Grind Depth/Weld Height Gauge

Job Time Allowed

3.0 hours



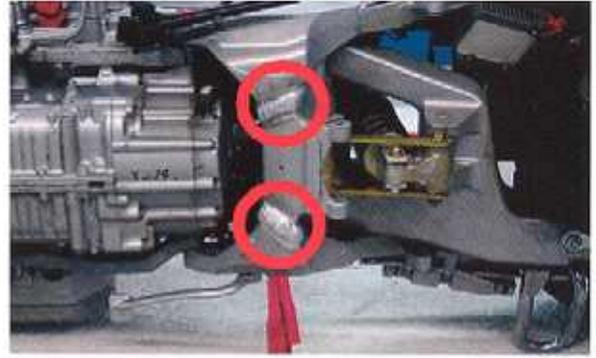
Job Overview

This job consists of the following steps:

- A. **Work Area Preparation:** Carefully laying the motorcycle on its **RIGHT** side.
- B. **Grind Layout:** Using a template to mark correct grinding locations on frame.
- C. **Grinding:** Grinding existing production weld per grinding location marks.
- D. **TIG Welding:** Adding weld material to existing production weld.

When right side is finished, repeating steps A-D for the other side of the motorcycle.

IMPORTANT: Only work on one side of the motorcycle at a time. DO NOT attempt to work on both sides of the motorcycle simultaneously.



You will be welding at the locations shown above.

Step A: Work Area Preparation

1. Place thick, non-abrasive padding (such as furniture blankets) on the ground to protect the vehicle when you lay it on its side.
2. Lock the handlebars to the **left**, using the key in the ignition.
3. **Using two people**, gently lay the vehicle down on its **RIGHT** side **on the padding**, keeping the handlebars turned all the way to the left until the handlebar end touches the padding.

The vehicle should be laying on the padding, with its engine guard, saddlebag guard, and handlebar end resting on the padding – no painted parts should be contacting the padding.

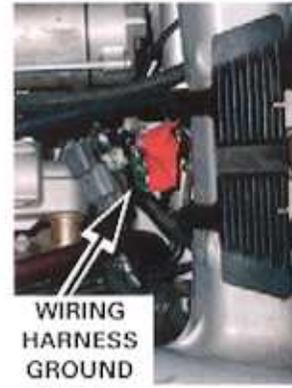
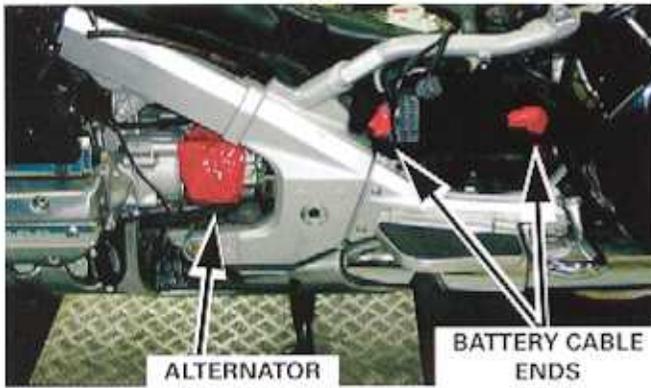


Before Welding

Before welding, ensure the dealer has done the following:

- All fuel lines are sealed and duct taped.
- Battery is removed and cable ends are duct taped.
- Main wiring harness ground is removed and duct taped.
- Alternator is covered.

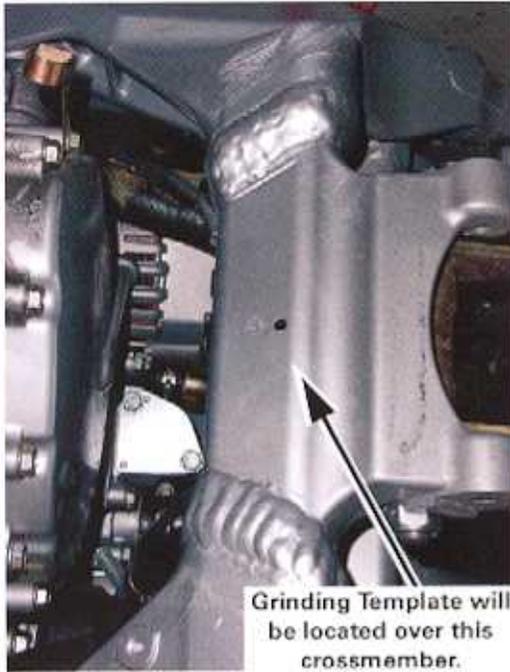
This is to ensure your safety and the quality of the weld.



4. Proceed to **Step B: Grind Layout.**

Step B: Grind Layout

The illustrations below show the proper Grinding Template placement.



1. With the Grinding Template in the correct position, mark along the edges of the template as shown. Make sure you mark the entire length of the template. **DO NOT mark past the edges of the template.**

Length of grinding mark: 3.5" (Grind depth should be uniform.)

Mark around
BOTH edges.



Mark around
BOTH edges.



2. Proceed to **Step C: Grinding**.

Step C: Grinding

1. Using a $\text{\O}1/2$ "-1.0" Carbide Burr (Tree-style with radius end) grinding wheel, grind the existing weld along the layout marks to a uniform depth until the supplied Grind Depth Gauge fits as pictured.

IMPORTANT: If using lubricant to prevent clogging, do not spray directly on the weld – spray on the bit.

Finished grind should look similar to below.



Make sure you grind on both sides of the cross-member and to the full length of the grind mark.



Measure the grind depth along the length of the grind with the Grind Depth Gauge as pictured.

2. Using a new, non-contaminated 2" stainless steel stiff wire wheel and a pneumatic die grinder, clean the area around the grind, removing **ALL** of the powder coat from the welding zone.



3. Use acetone or an equivalent to clean any grease, oil, or remaining dirt from the welding zone.
4. Proceed to **Step D: TIG Welding**.

Step D: TIG Welding

Welding Specifications:

- TIG welder capable of 200 Amps
- 180 Amp \pm 5, 200 V AC
- 100% Argon gas
- AC polarity
- Wave balance = 5 (or middle setting on your TIG welder)
- High frequency to continuous mode
- Use Aluminum TIG welding rod #5356 (3/32" or 1/8") – We recommend Lincoln #5356.

**IMPORTANT: Use ONLY #5356 Aluminum TIG welding rod for this repair.
DO NOT make substitutions.**

NOTE: Make sure all of your welding equipment is in good operating condition, including your ground clamps, tungsten, ceramic cup, etc.

Grounding the Frame

1. Ground your welding equipment to the vehicle using the supplied grounding bracket as shown.

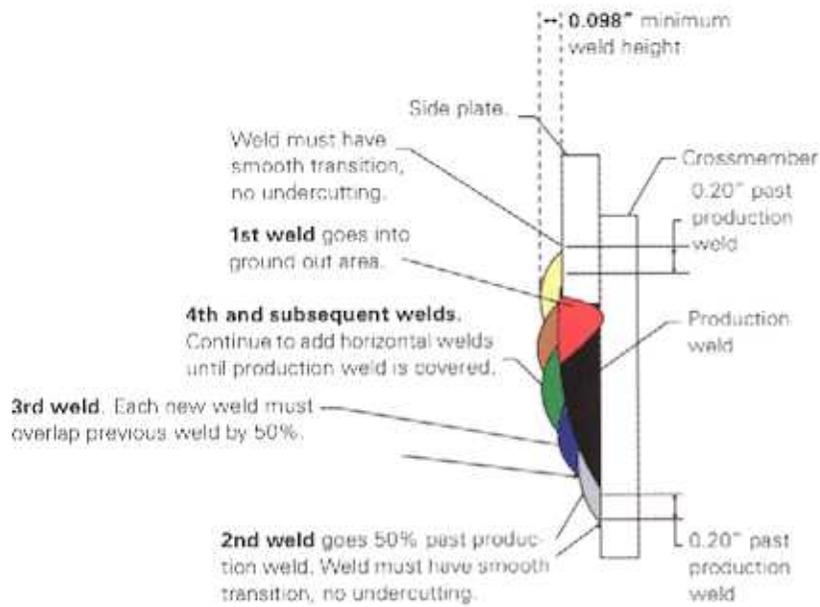
IMPORTANT: DO NOT start your weld. Proceed to the next page for a **Weld Overview**.



Weld Overview

The illustrations below show the correct weld techniques. Please follow these directions carefully.

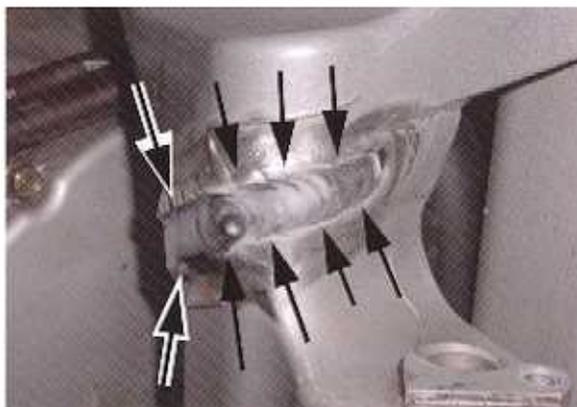
NOTE: You will be **increasing** the size of the welds.
We estimate you will use 9 1/2' of 3/32" rod or 6' of 1/8" rod.



Welding beads with no wash applied.

TIG Welding Procedures

1. Your first weld will be a root weld in the ground out zone as shown.



After finishing each weld, clean the welding zone with a stiff wire hand brush.

NOTE: See next page for 2nd weld location.



2. **The 2nd weld acts as a shelf for the remaining horizontal welds.** The center of this shelf weld must be located on the edge of the production weld (50% on the production weld, 50% on the casting).

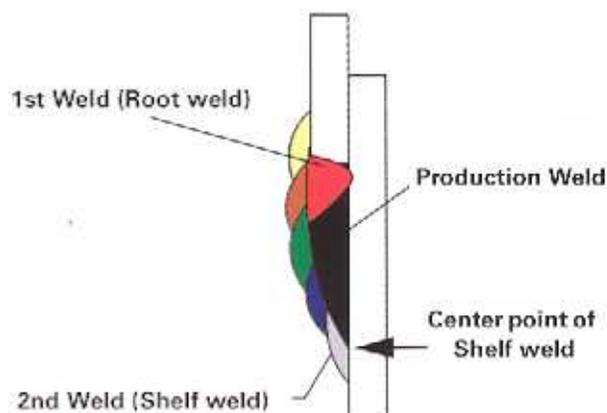
Refer to the illustration at right for the correct aiming point and placement of the weld.

3. Now weld as many beads as necessary to cover the entire welding zone as shown.

NOTE: Make sure all of the original production weld is entirely covered with new weld.

Remember to clean the welding zone with a stiff wire hand brush between each bead.

4. Using the Weld Bead Height Gauge, make sure your weld is as shown. If the weld bead does not touch the Weld Gauge, you must add additional rod during the next step (wash bead) to attain the correct weld bead minimum height.



5. **Using additional welding rod**, run one continuous wash bead over all the horizontal beads, making sure to cover the start/stop point of all the beads by at least 2/3 bead overlap.

Thoroughly clean the entire welding zone with a stiff wire hand brush.

6. **Using at least two people**, raise the motorcycle and place it on its side stand. Reposition the furniture blankets or padding. **Using at least two people**, carefully lay the motorcycle on its **LEFT** side.



WASH BEAD

7. **Now follow Steps A-D for the other side of the motorcycle.**
8. **Remove the ground bracket from the vehicle.**
9. After you have completed the TIG Welding procedure for the other side of the motorcycle, proceed to **Step E: Vehicle Preparation/Return.**

Step E: Vehicle Preparation/Return

- If you are a welder, contact the dealer to have the motorcycle returned.
- Please keep the entire welding kit you received from the dealer for future jobs.
- If you are a dealer, refer to the RE-ASSEMBLY Section.



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