

# FULL METAL JACKET®

## IMPORTANT

Brakes are a safety-critical item on a bicycle. Improper set-up or use of brakes can result in loss of control or an accident, which could lead to a severe injury.

It's your responsibility to learn and understand proper braking techniques. Consult the owner's manual for your bicycle and a professional bike dealer. Practice your riding and braking techniques in a controlled environment prior to aggressive riding.

The effectiveness of braking is dependent on many conditions over which Avid has no control including the speed of the bicycle, type and condition of the riding surface, braking lever force, proper installation and maintenance of brakes, cables, levers, brake pads, the condition of the bike, weight of the rider, proper braking techniques, weather, terrain, and a variety of other factors.

## ALWAYS RIDE UNDER CONTROL.

Remember, it takes longer to stop in wet conditions. To reduce the possibility of an accident and minimize trail erosion, you should avoid locking-up your wheels.

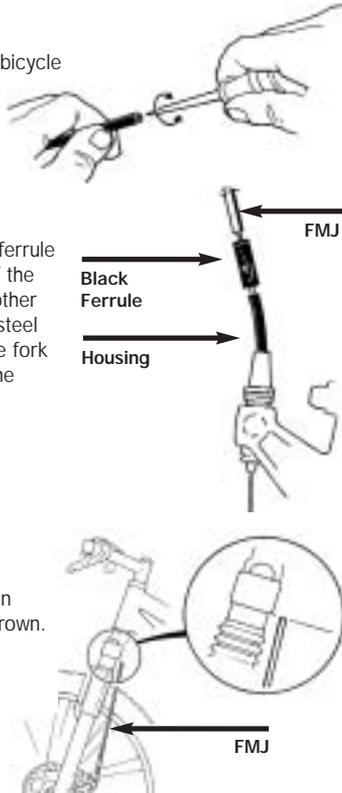
## INSTALLATION INSTRUCTIONS

**Installation Tools Needed: Cable Cutters, File, Tubing Cutter or Hacksaw, Awl, Zip Ties (optional).**

The following illustrations outline the installation of the Avid Full Metal Jacket cable system with the Avid Ball Bearing Disc Brake. The FMJ system may be used with most other cable actuated products but may require deviation from these instructions.

### FRONT BRAKE INSTALLATION

- CUT THE HOUSING**  
Cut a 5cm piece of housing using bicycle cable cutters and flare open the housing liner with an awl or other pointed object.
- FIT THE FMJ**  
Insert the housing into the caliper ferrule and place an FMJ ferrule on top of the housing. Insert FMJ tube into the other end of the connector ferrule. The steel tube will run up the backside of the fork leg and protrude over the top of the fork crown.
- MEASURE THE FMJ**  
Make a mark on the steel tube even with the bottom edge of the fork crown.

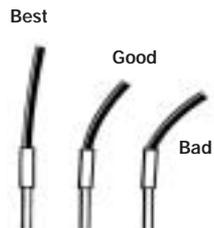
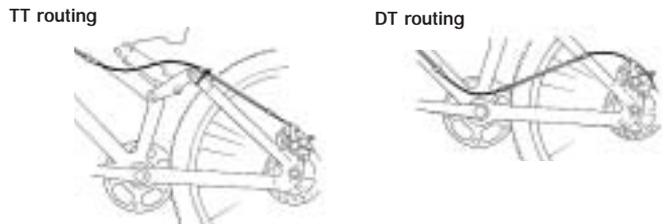


### REAR BRAKE INSTALLATION

- FIT THE FMJ**  
For the rear brake insert the other piece of 5cm housing in the caliper. Place an FMJ ferrule on top of the housing. Insert a steel tube into the other end of the connector ferrule. This piece of tubing will run along the seatstay or swingarm.



### TYPICAL FULL SUSPENSION INSTALLATION



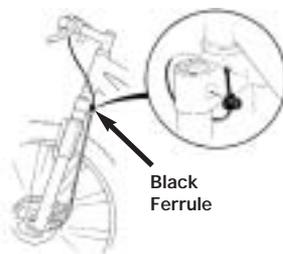
Do not allow the cable housing to bend excessively where it joins the FMJ.

- MEASURE THE FMJ**  
If you are installing the Full Metal Jacket on a full suspension frame, then you must account for rear shock compression and cut the tube as close as possible to the lower shock mount. If installing on a hardtail, then run the tubing to 3-5" short of the seat post collar.

- CUT THE FMJ**  
Using a small tubing cutter or hacksaw, cut the steel tube to the desired length. File off the rough edges if necessary.



- INSTALL THE GUIDE**  
Put an FMJ (black) ferrule on top of the steel tube. Place the supplied FMJ cable guide on the crown of the fork at the same spot as the connector ferrule. Clean the crown with alcohol prior to applying adhesive back. If necessary, use the supplied zip-tie to secure it.



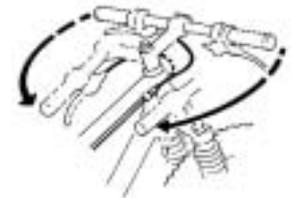
The steel tubes are meant to substitute relatively straight areas of cable routing, to eliminate friction and compression. DO NOT BEND TUBES!!

- ROUTE THE HOUSING**  
Cut a piece of housing (once again use an awl to round the inner housing back into shape) to compensate for shock travel (for full suspension) or to accommodate the bend up to the cable stop on the top tube. (On hardtails)



- INSTALL THE FMJ**  
To use the third steel tube along the top tube, you will need to put another FMJ ferrule at the other end of the housing. Then connect the last steel tube. You may need to shorten the length of this tube depending on the length of your top tube.  
**Helpful Hint:** You will not want to have the tube be much longer or shorter than the position of your original cable guides on the top tube. Some frames have cable guides under the top tube that are particularly short. In such case cut the tube three inches short of either side of the head tube and the seat tube.

- INSTALL THE HOUSING**  
Cut a piece of cable housing to fit from the brake lever to the first FMJ ferrule. Keep the housing as short as possible while maintaining a relatively smooth loop. Be sure to account for the movement of the handlebar. Put a standard ferrule between the housing and the brake lever barrel adjuster.



- INSTALL THE BRAKE WIRE**  
Install the inner wire and thread it through the housing and tubing.

### Troubleshooting / Tech Tips

- Make sure that all housing and tubing is fully seated before riding the bicycle. If a ferrule, tube or housing is not seated properly then the brake will not perform properly. Squeeze the lever firmly several times to make sure that all the parts have seated properly, and that the inner wire does not slip.
- Use zip ties to secure any housing or tubing that is experiencing an excessive amount of movement.
- There are other cable routing methods for the rear of the bike than those written above. Feel free to contact the Avid Technical Services Hotline (303-762-9353).

### Yer' Done!