

MartySub by GSG™ **Shopping Checklist**(Builder's Guide)

MartySub Shopping Checklist:

| 1. CABINET |
|--|
| ☐ MartySub by GSG™ CNC Cut Cabinet with Full Interlocking Bracing |
| 2. DRIVER |
| □ Dayton RSS460HO OR Dayton UM18 OR Other |
| 3. AMPLIFIER |
| □ Behringer NX3000D OR NX6000D ("NX" are the new versions of the iNuke 3000DSP and iNuke 6000DSP) □ Dayton SA1000 (if an absolutely silent amp is required) |
| 4. HARDWARE AND FINISHING |
| Screws, Drill bit, & Glue |
| □ Screws □ Drill bit 7/64" □ Glue □ Painter's Tape (used in place of clamps) |
| Receiver, Amplifier, and Subwoofer Connections |
| □ Terminal Cup OR Female Speakon □ Speaker wire with Speakons to plug in the Amp and either banana plugs (for terminal cup) or Speakon (for Speakon on sub) to plug i the subwoofer box □ RCA to XLR cable |
| Baffle Mounting Hardware (MartySub Classic ONLY, Roundover Series do NOT require any mountir hardware) |
| □ Bolts OPTION 1 (1/4"-20 flat head connector bolts) OR OPTION 2 (3/8"-16 socket head cap screw bolts) |
| ☐ Fender washers, Lock washers, and Wing nuts ☐ Hex wrench (5/32" for OPTION 1, 5/16" for OPTION 2) |

| Duratex/Paint, Roller, Brush, and Sand paper | | | | | |
|---|--|--|--|--|--|
| □ Duratex OR Primer & Paint | | | | | |
| □ Roller | | | | | |
| ☐ Extension (optional) | | | | | |
| ☐ Brush | | | | | |
| ☐ Sand paper | | | | | |
| Other: Internal Wire & Gasket Tape | | | | | |
| ☐ Internal speaker wire | | | | | |
| ☐ Gasket tape (not required with UM18 driver) | | | | | |

Note: In order to make gathering your items easier, we have made recommendations to specific products from companies. In most cases, we do not receive any commissions or referral fees. This is just to make your life easier. Feel free to substitute COMPARABLE products from other companies in place of our recommendations.

The following pages provide details and recommendations for each item on the checklist.

Screws & Glue

Screws and Glue are both available at a variety of locations, including Home Depot

Screws

(for driver mounting and terminal cup; 12 required).

Grip Rite #6 x 1 5/8 Philips Bugle Head Coarse Thread Sharp Point Drywall

https://www.homedepot.com/p/Grip-Rite-6-x-1-5-8-in-Philips-Bugle-Head-Coarse-Thread-Sharp-Point-Drywall-Screw-158cdws1/100112584

Drill bit for pre-drilling screw holes

7/64" drill bit

It typically is far more economical to purchase drill bits in a set than individuals, but if you don't have a set and need only a single bit, this one is the lowest cost that we could find at Home Depot.

Milwaukee 7/64 in. Thunderbolt Cobalt Drill Bit, \$2.77 https://www.homedepot.com/p/Milwaukee-7-64-in-Thunderbolt-Cobalt-Drill-Bit-48-89-2304/203115290

Any 7/64" drill bit will work just fine, just get the lowest cost one that you can find.

Glue

Titebond III has the longest working time of all the Titebond glues. For the extra couple of bucks, this will ensure that you have plenty of time to get the panels all in place before the glue starts getting tacky.

1 bottle 16 oz Titebond III; \$7.47

http://www.homedepot.com/p/Titebond-III-16-oz-Ultimate-Wood-Glue-1414/100522343



Painter's Tape

Most builder's are assumed to be first time builders who will not have any clamps. If you have a clamp that is taller than your MartySub, you will not need the painter's tape.

For everybody else, we recommend the use of painter's tape. It will be used to provide extra insurance that the side panels are pulled tight to the top panel during assembly. For seven bucks, it is cheap insurance. Please use it!

https://www.homedepot.com/p/3M-ScotchBlue-1-88-in-x-60-yds-Original-Multi-Use-Painter-s-Tape-2090-48N/100550611

1 Store SKU #315026 Store SO SKU #1000215886



ScotchBlue 1.88 in. x 60 yds. Original Multi-Use Painter's Tape

★★★★ (922) ✓ Write a Review Questions & Answers (12)

- Leaves a clean edge when removed
- · Use on painted walls, metal, uneven surfaces, wood, and trim
- Removes cleanly for up to 14 days with no sticky residue

\$658

Connecting the Amp to the Sub

There are two ways to plug speaker wire into your MartySub, either using wires to a terminal cup (which is the traditional approach) or to a Speakon terminal which is popular among many builders. Both perform equally well. Choose the one that you like:

Both are available from Parts Express (choose one):

Terminal Cup w/5 way binding posts; \$5.50 [Overall size: 3-5/8" by 3-1/8"; cutout: 2-7/8" x 2-1/8"] https://www.parts-express.com/Gold-Recessed-5-Way-Banana-Speaker-Terminal-Rectangle-260-309

OR:

Neutrik NL4MPR Speakon Connector 4 Pole Round Chassis Mount; \$2.59 https://www.parts-express.com/Neutrik-NL4MPR-Speakon-4-Pole-Round-Chassis-Mount-092-054

Connecting the AV Receiver to the Amp

In order to connect your subwoofer output on your receiver (which is an RCA type connector in most cases) to the input on the amplifier (which is an XLR), a converter of some type is required. Many folks have found that this one works well:

RCA to XLR cable; length depends on your setup Monoprice 6ft Premier Series XLR Male to RCA Male Cable, 16AWG (Gold Plated)

\$5.99 and up depending on required length https://www.monoprice.com/product?p id=4777

Baffle Mounting Bolts

MartySubs by GSG include removable baffles. Both the driver mounting screws and a set of four bolts hold the removable baffle securely in place. There are many options for choosing the bolts for your MartySub, but we have narrowed it down to two general for simplicity: option 1 is to use Flat Head Connector Bolts and option 2 is to use Socket Head Cap Screws. Both options are available in a variety of finishes. Both options require a hex key/hex wrench (also called an Allen wrench or L-wrench). The following pages list the details and some suppliers for each option.

Option 1:
Flat Head Connector Bolts
Available in a variety of finishes

Option 2:
Socket Head Cap Screws
Available in a variety of finishes





Baffle mounting bolts Option 1: Flat-head Connector Bolts



The bolts are $\frac{1}{4}$ " coarse threads, i.e. $\frac{1}{4}$ -20 (1/4" is the diameter of the bolt and the "20" indicates 20 threads per inch)

The hex wrench for these $\frac{1}{4}$ " bolts is 5/32".

If you do not have a 5/32" hex wrench, one can be purchased here: Bondhus 5/32" hex wrench \$0.95 https://www.amazon.com/Bondhus-15709-L-Wrench-ProGuard-Barcoded/dp/B0053HIKHU/

If you have a 3/8" socket wrench, this works too: Husky 3/8 in. Drive 5/32 in. Hex Bit Socket \$1.97 https://www.homedepot.com/p/Husky-3-8-in-Drive-5-32-in-Hex-Bit-Socket-H3DHBS532/202913534

Option 1 requires 4 Fender Washers, 4 Lock Washers, and 4 Wing Nuts all of which are ½" size.

The parts can be purchased at Home Depot:

1. 1/4" Zinc Fender Washers, 1.25" outer diameter (4 pieces)



2. 1/4" Zinc Lock Washer (4 pieces)



3. 1/4"-20 Coarse Thread Wing Nut #802371 (4 pieces) They come 4 per bag, so you will need one bag.



This is how it will look on the INSIDE of the cab when assembled.

• Fender Washer goes on first

2 Lock Washer—goes on second. It sits <u>in</u> <u>between</u> the fender washer and the wing nut.

3 Wing nut goes on last. Hold wing nut with hand and tighten baffle bolt from the front using hex wrench.

The "standard" bolts for OPTION 1 is Black Oxide Finish (4 bolts are required)



Black Oxide Finish bolts from Home Depot come in a 4-pack for \$2.70 1/4-20 x 50mm coarse thread connector bolts

Some Home Depots are no longer stocking these, but to the best of our knowledge, they will continue to be available for online purchase.

https://www.homedepot.com/p/Everbilt-1-4-in-20-tpi-x-50-mm-Narrow-Black-Connecting-Bolt-4-Pack-818038/204806571

As of the date of this publication, the "wide neck" version in black was still being stocked at Home Depot. These have more material under the head, but WILL WORK so long as the correct size is purchased 1/4-20 x 50mm. 4-pack \$3.58 They are in a pull out drawer on the bolt aisle.





There are many other finishes available from a variety of suppliers. If Home Depot is out of stock or you want a finish not carried by Home Depot, other suppliers include:

Black Oxide Finish 1/4"-20 x 50mm Round Head Type B Connector Bolt \$0.2474 ea.

https://www.fastenal.com/products/details/0140694

Nickel Finish (may be out of stock) https://www.fastenal.com/products/details/0140697

Black Oxide Connector Bolts - 2" (8-pack) Item #: 46707 2" \$4.99 pack http://www.rockler.com/connector-bolts-black-oxide-connector-bolts

Statuary Bronze Connector Bolts - 2" (8-Pack) Item #: 31849 \$4.99 pack http://www.rockler.com/connector-bolts-statuary-bronze-connector-bolts

Nickel Finish Hard-to-Find Fastener 014973445799 Joint Connector Bolt (10 Piece), 1/4-20 x 1.97; Amazon (1.97" is 50mm) \$11.63 https://www.amazon.com/Hard-Find-Fastener-014973445799-Connector/dp/B00KM4P0VI/

Special notes: ½-20 x 50mm is the correct length, <u>70mm length</u> will <u>NOT WORK</u>, since the unthreaded section is 1.5" which is too long.

Baffle mounting bolts OPTION 2: 3/8" Socket Head Cap Screws



OPTION 2 bolts are Socket Head Cap Screws with 3/8" coarse threads, i.e. 3/8-16 (3/8" is the diameter of the bolt and the "16" indicates 16 threads per inch)

The hex wrench for the 3/8" bolts is 5/16".

If you do not have a 5/16" hex wrench, one can be purchased here:

Bondhus L-Wrench 5/16" \$6.39 https://www.amazon.com/Bondhus-15913-L-Wrench-ProGuard-Barcoded/dp/B005NT0YJU

5/16" Protanium® Hex Balldriver Drive Standard Arm Standard L Short Arm Hex Key \$3.76

https://www.fastenal.com/products/details/0257009

or a whole pack (including the required 5/16" hex wrench) can be purchased here:

SAE Combo Short Long Hex Key Set \$7.79

https://www.walmart.com/ip/18Pc-SAE-Combo-Short-Long-Hex-Key-Set/16792254

If you have a 3/8" socket wrench, this works great: Husky 3/8 in. Drive **5/16 in. Hex Bit Socket** \$1.97 Make sure you get the 5/16" size hex bit. https://www.homedepot.com/p/Husky-3-8-in-Drive-5-16-in-Hex-Bit-Socket-H3DHBS516/202913538



OPTION 2 requires 4 Fender Washers, 4 Lock Washers, and 4 Wing nuts all of which are 3/8" size. The parts can be purchased at Home Depot.

1. 3/8" Zinc Fender Washers, 1.5" outer diameter (4 pieces)



2. 3/8" Zinc Lock Washer (4 pieces)



3. 3/8"-16 Coarse Thread Wing Nut #802391 (4 pieces) They come 3 per bag, so you will need two bags.



The recommended bolts for OPTION 2 are 3/8" x 1.75" Chrome Socket Head Cap Screws (4 bolts are required).

These large head bolts really look nice if you are looking for a big, beefy, hex bolt look. They come in packs of 2, so you will need two packs.



OPTION 2 (additional bolt options)

High polish stainless steel

FOREVERBOLT FBSCAPS38162P10 Socket Head Cap Screw, 3/8"-16 X 2" Long, 18-8 Stainless Steel, Finish NL-19, PK 10 \$12.80

https://www.amazon.com/FOREVERBOLT-FBSCAPS38162P10-Socket-Stainless-Finish/dp/B013V9ME0U/

Stainless Steel 3/8 in. x 2 in. Internal Hex Socket Cap-Head Cap Screws (4-Pack) \$11.97

https://www.homedepot.com/p/The-Hillman-Group-3-8-in-x-2-in-Internal-Hex-Socket-Cap-Head-Cap-Screws-4-Pack-3270/204794841

3/8"-16 x 2" ASTM F837 Hex Drive Grade 18-8 Stainless Steel Socket Cap Screw \$1.68 ea.

https://www.fastenal.com/products/details/73544

3/8"-16 x 2" ASTM A574 Hex Drive Black Oxide Finish Alloy Steel Socket Cap Screw

https://www.fastenal.com/products/details/23311

Coarse Socket Cap Screws, 3/8-16 x 2-Inch 4 pack \$13.31

https://www.amazon.com/Hard-Find-Fastener-014973204846-Coarse/dp/B003PNYP96/

Note: 2" bolt length would be preferred but 1.75" is the longest length that Home Depot stocks in the 3/8" Chrome Socket Head Cap Screws. 1.75" or longer will work. 2" long bolts may make assembly a hair easier.

Duratex/Paint, Roller, Brush, and Sand Paper

With high performance CNC cut MartySubs, not much sanding should be required. However, sanding the end grain with 100 grit will make the finish that much better. One large sheet or two smaller sheets should be sufficient.

Garnet 3-2/3 in. x 9 in. 100 Grit Medium Grade Sand Paper (6-Sheets/Pack) https://www.homedepot.com/p/3M-Garnet-3-2-3-in-x-9-in-100-Grit-Medium-Grade-Sand-Paper-6-Sheets-Pack-19037-20-CC/202563277

3M 9005 5PK Assorted Aluminum Oxide Sandpaper \$2.97 https://www.walmart.com/ip/3M-COMPANY-9005-5PK-Assorted-Aluminum-Oxide-Sandpaper/17330771

Finish Option 1: Duratex (one quart is required for a MartySub)

Depending on your location, it may be less expensive here:

https://www.parts-express.com/Acry-Tech-DuraTex-Black-1-Quart-Roller-Grade-Cabinet-Texture-260-111

or here:

https://www.amazon.com/Acry-Tech-DuraTex-Cabinet-Texture-Textured/dp/B072LWV75D/

Duratex is water-based, so no fumes and easy cleanup. It dries very strong and is easy to work with. One quart is more than enough for a MartySub.

Finish Option 2: Prime and Paint

If you are a pro-painter and want to use an oil or solvent-based primer and solvent-based paint, that can provide for a very nice finish.

However, for most folks, a good paint finish can be achieved with a water-based primer and latex paint, which allows for easy clean-up and no hazardous fumes (good news for folks who will be painting their subs indoors!).

Primer:

1-qt. Peel Stop Triple Thick White Binding Primer \$10.97 https://www.homedepot.com/p/Zinsser-1-qt-Peel-Stop-Triple-Thick-White-Binding-Primer-260925/203325638

Paint:

GSG MartySub Custom Blend Behr Pro i300 Interior Paint, Dead Flat Deep Base PR313 w/ 14 oz. Black Pigment \$18.98/gal (some stores may have quarts)



This is the blackest, flattest, black paint that we are aware of. With a smooth roller, it gives a very nice finish too. Available in stores only.

At the top of the can, it will indicate DEEP BASE. Ask the paint service technician to add 14 oz. of black tint. That will fill the can all the way to the rim.



We recommend flat black for light controlled theaters in order to minimize reflections, but other colors and sheens may work better for you (semi-gloss, high-gloss, etc.) One quart is sufficient for several coats (which gives a nice deep black finish) on a MartySub.

This paint can also serve double duty for painting anything in your theater room that you want a dead flat black.

Two coats of primer and two coats of paint provide an excellent finish.

Budget 2" brush for painting in corners and along seam lines.



4 in. High-Density Foam Roller Cover with Frame \$4.97 https://www.homedepot.com/p/4-in-High-Density-Foam-Roller-Cover-with-Frame-HD-MT-200-11-4/202097448



If you thoroughly clean the roller after each use, you may only need the one that comes with the handle.

Additional rollers are available should you need them from Home Depot: 4 in. x 3/8 in. High-Density Foam Mini-Roller Cover (2-Pack) \$4.97

4 in. x 3/8 in. High-Density Foam Mini-Roller Cover (5-Pack) \$8.97

Optional, extension pole for roller.

If you want to be able to paint inside the ports all the way to the back of the cabinet and your arm is too large to reach inside the port, an extension can be attached to the 4" roller.

You may have one on hand, if not, this one or a similar extension pole can work.

Economy >

4 ft. Wood Extension Pole with Metal Tip

★★★★★ (446) Write a Review Questions & Answers (4)

- · Screws onto the end of paint rollers for better reach
- · Great for painting tall ceilings and high walls
- Sturdy yet lightweight design reduces arm fatigue

\$6⁹⁷/eac

Gasket tape (not required with UM18 driver)

In order to get a good seal on the driver, we recommend gasket tape that is closed cell, high density foam.

Note: Gasket tape is <u>not required</u> when using the UM18 driver (the integrated gasket on the driver is sufficient).

E/O Black High-Density Rubber Foam Weatherstrip Tape 3/8 in. X 3/16 in. X 10 ft. \$2.25

https://www.homedepot.com/p/Frost-King-E-O-3-8-in-X-3-16-in-X-10-ft-Black-High-Density-Rubber-Foam-Weatherstrip-Tape-R338H/100197882

This one is proven, but is only available (at last check in 50 foot rolls) Closed cell, 1/8" thick Parts Express Speaker Gasketing Tape 1/8" x 3/8" x 50 ft. Roll,

https://www.parts-express.com/Speaker-Gasketing-Tape-1-8-x-3-8-x-50-ft.-Roll-260-540

Internal speaker wire

About 4-5 feet of speaker wire is required to connect the terminal cup to the driver. Having a little longer wire may be easier to work with. 12-14 gauge is recommended and 16 gauge can work if that is what you have on hand. Smaller than 16 gauge is not recommended.