

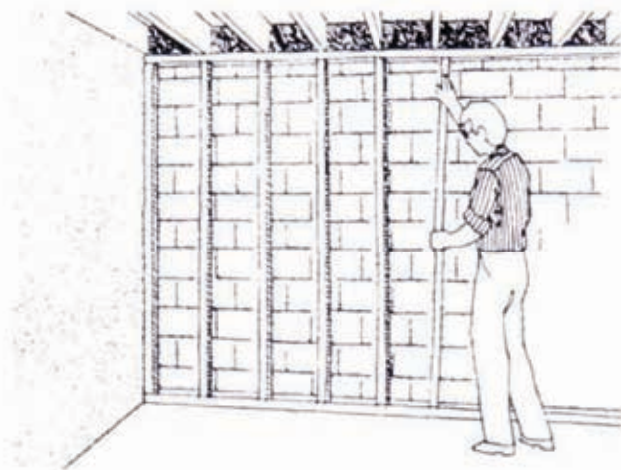
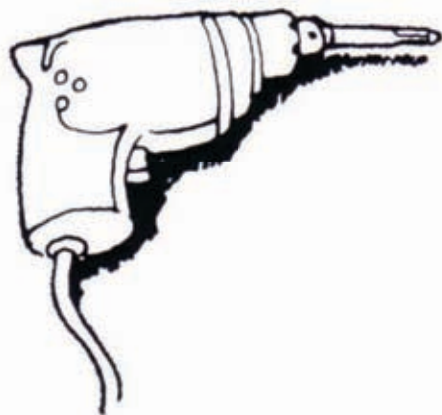


**Homesteel**

**Handyman's Guide**



# How to Install Lightgauge Steel Stud Wall Framing



 **CSSBI**  
Canadian Sheet Steel Building Institute

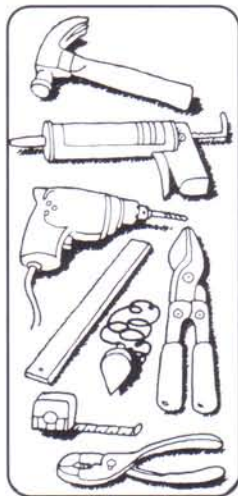
## DESCRIPTION

This economical steel framing is ideal for a rigid, lightweight partition, or for furring and finishing an exterior wall, in a home basement, attic or similar location. It consists of lightgauge steel studs, set in channel-shape lightgauge steel tracks at floor and ceiling to form sturdy non-load bearing partition framing. Gypsum panels, screw-applied, provide surfacing for a completed partition, or become a base for adhesive application of finish plywood or pre-decorated hardboard paneling. The gypsum panels as a finished surface require only joint-finishing, paint or wallpaper, and trim.

With either option, gypsum panels provide a good attachment base for hanging pictures and shelves (with toggle bolts or similar clamp-type fasteners), steel studs and tracks eliminate warpage, twisting and shrinkage common with wood framing, so surfaces stay straight and smooth with no nail pops or ridging. They are available in 1-5/8", 2-1/2", or 3-5/8" widths to satisfy various partition/wall requirements.

### Tools you'll need

1. Hammer
2. Caulking gun
3. Electric drill (with an adapter to install screws) or a screw gun
4. Tin snips
5. Chalk line or straightedge
6. Plumb bob or level
7. Tape measure or ruler
8. Pliers



### Materials you'll need for each 8' x 8' section of partition\*

- 7 - 8' lightgauge steel studs (1-5/8", 2-1/2", or 3-5/8" wide)
- 2 - 10' lightgauge steel tracks (same width as studs, cut to required length)
- 6 - 11oz. tubes of panel adhesive (for attaching track to floor and ceiling, finish panels to gypsum base panels)
- 4 - 4' x 8' gypsum panels
- 4 - 4' x 8' plywood or pre-decorated hardboard panels (optional)

As required - base and ceiling trim, corner and joint mouldings (plus joint compound and tape if gypsum panels are finished)

### Screws:

- 28 - 9/16 Pan Head or Wafer Head, for fastening studs and runners together
- 150 - 1" Bugle Head, for attaching gypsum panels to studs
- 20 - 1-5/8" Trim Head, for attaching trim at floor and ceiling



Pan Head



Bugle Head



Trim Head



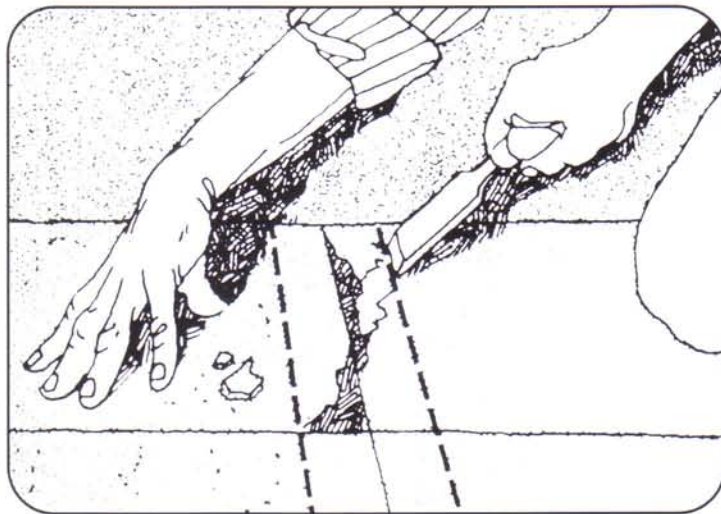
Wafer Head

\* **Note:** If partition contains door or windows, additional material is required - see details on page 5 and 6.

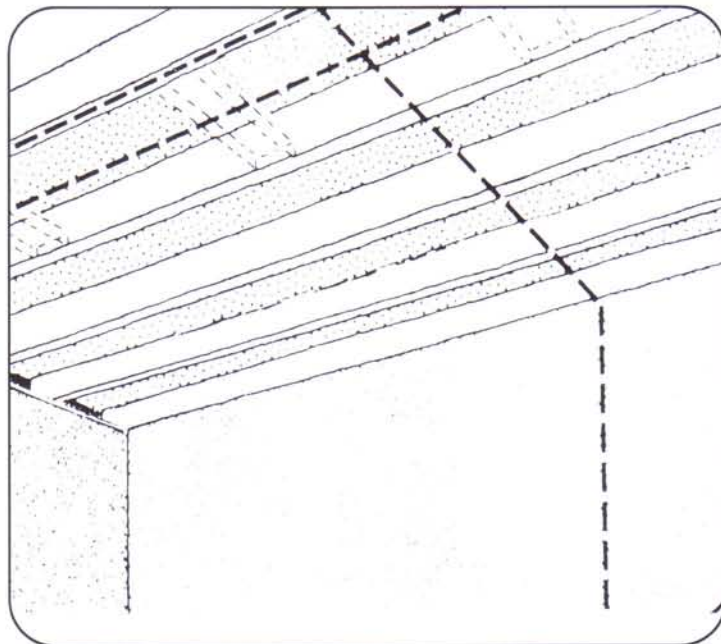
## PREPARATION

1. Determine location of partition and mark locations of track outside edges on floor and ceiling. Check with a plumb bob to make certain that floor and ceiling tracks are vertically aligned. Mark location of door and window openings (omit floor track at door openings, see page 5 for framing details).

2. Prepare floor surface for track attachment. Secure or remove loose tile; patch chipped or badly spalled concrete. Clean area with broom before applying adhesive for placement of track.

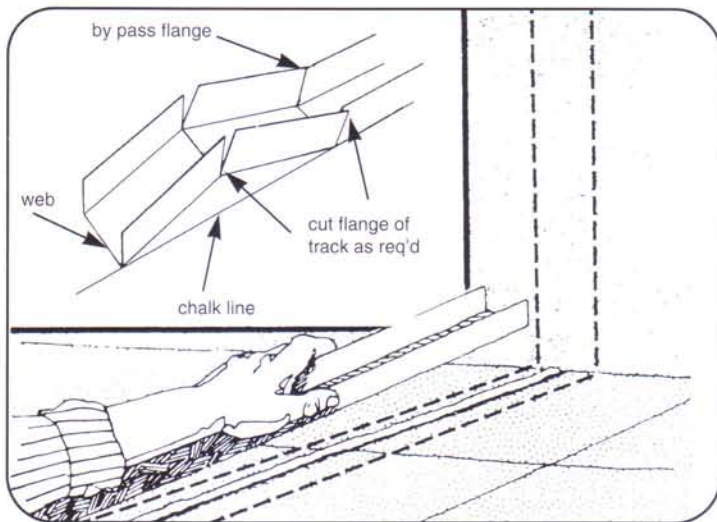


3. If the ceiling track is parallel to ceiling joists, it is necessary to add track supports spanning between the two adjacent joists. Use any available wood blocking (1x4 minimum size) or scrap pieces of stud or track, installing them no more than 2' apart, flush with the bottom of joists, with nails or screws. If ceiling track is perpendicular to joists, it is simply attached to bottoms of joists.

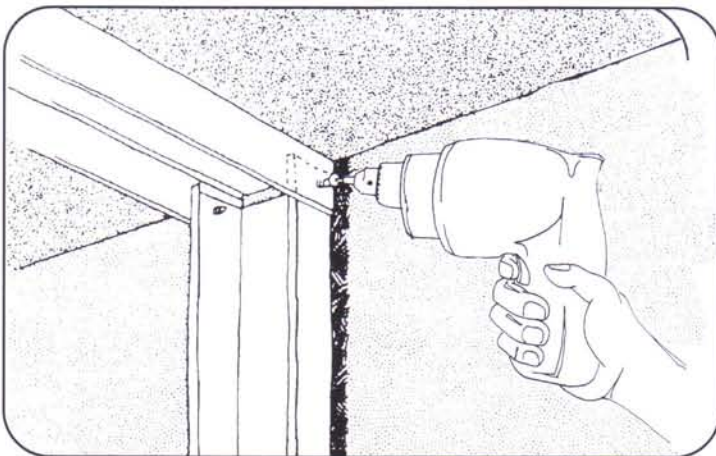


# FRAMING

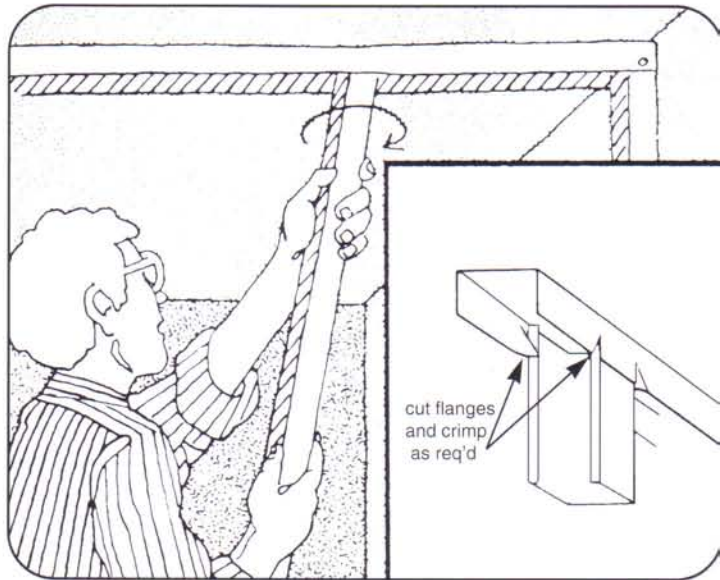
1. Secure track to concrete floors with adhesive; to wood joists, blocking or flooring with nails or screws; to existing minimum 1/2" drywall or plaster ceilings with adhesive and mechanical fasteners such as toggle bolts. Do not attach direct to wood-fiber board or ceiling tiles, but through them to joists. Do not notch or cut structural rafters or joists, as this will weaken them. If minor surface irregularities exist, cut track flanges and conform it to contour. Apply a 3/8" bead of adhesive to clean floor, along approximately the centre line of track. Position track and press firmly against floor (follow adhesive manufacturer's directions - for many types of adhesive, pull one end of track away from floor about 6", prop up for 10 minutes and press firmly back into place, then impact with wood block and hammer along track length). Mechanical fasteners, concrete stub nails, etc., may be used in place of adhesive; place them 2" from ends of track and at intervals of not over 2'.



2. Measure and cut end studs to proper length (3/8" shorter than distance between floor and ceiling track webs), place and plumb them in floor and ceiling tracks. Use power drill to fasten top and bottom of stud to floor and ceiling tracks with 9/16" pan or wafer head screws. (See Construction Tips, page 4, for door, window, and corner details.)

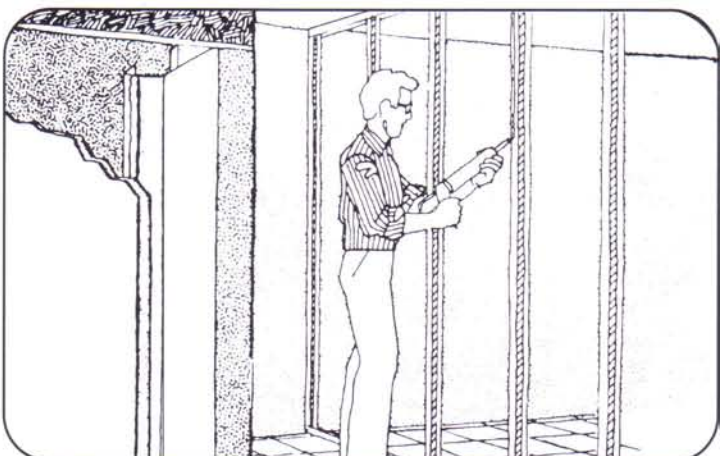


3. Measure and cut intermediate studs to same length as end wall studs and insert in track by twisting into position, making sure that all flanges face in the same direction. Partition should be paneled on both sides when accessible. Studs should be spaced on 24" centres if partition is to be paneled both sides, 16" centres if paneled on one side only. Check stud spacings by holding a panel temporarily in place (panel edge should fall on centre of stud face); correct any variations at this time. A friction fit between studs and track is sufficient anchorage, but for positive attachment fasten together with a 9/16" pan or wafer head screw each side, or simply cut track flanges and crimp studs in place with pliers.

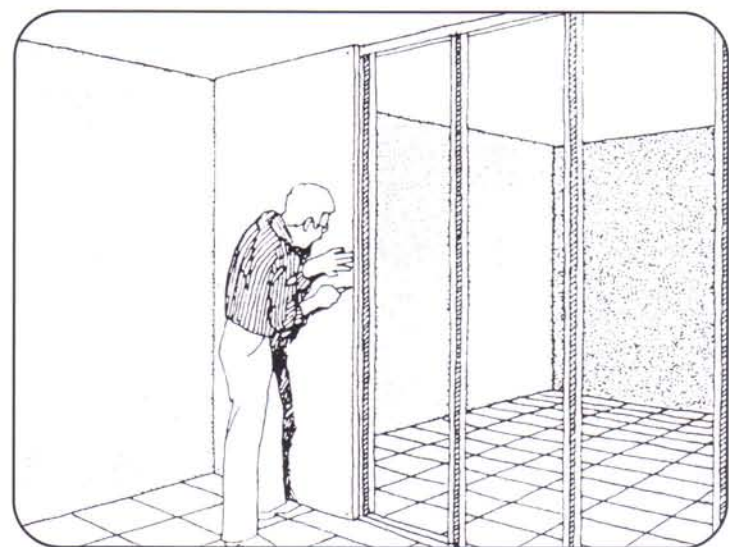


## PANEL INSTALLATION

1. Cut gypsum panels 1/2" shorter than floor-to-ceiling height. Start panel installation at corner or wall intersection. Apply a continuous bead of adhesive along track faces, and along stud faces to within 6" of each end. For studs on which panels will butt, apply a 1/4" bead centred on only the half of stud face that panel will contact, then later another 1/4" bead on other half when installing the next panel. For all other studs, and tracks, centre a 3/8" bead on stud or track face. *Caution: Follow adhesive manufacturer's specific cautions and directions. Some adhesives are highly flammable until dry and should not be used near heat, sparks, or open flame.*



2. Support panel at its centre, during application, on a wood shim 1/4" thick by 12" long. Plumb panel and secure to studs with 1" bugle head screws, first at mid-height, then at the corners. Drive screws until panel is tight against framing and screw is about 1/32" below surface, but with face paper unbroken. Stagger panel joints of opposite sides of partition on alternate studs.

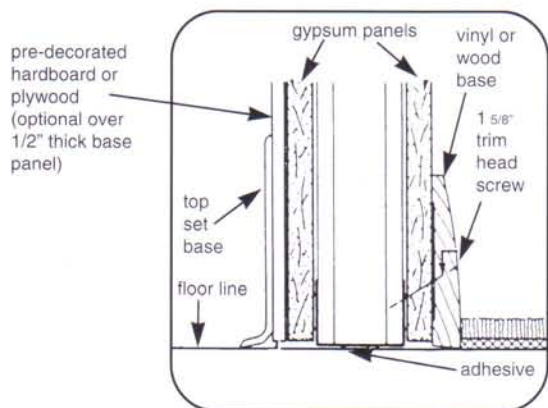


## Gypsum Panel as Optional Finish Surface - Joint Treatment and Decorating

Pre-decorated plywood or hardboard panels may be laminated to the gypsum panel base for a finish surface, using good quality panel adhesive. *Caution: Follow adhesive manufacturer's specific cautions and directions. Some adhesives are highly flammable until dry and should not be used near heat, sparks, or open flame.* As an alternate finish surface, the panel joints may be finished, trim applied, and surfaces decorated with paint or wallpaper.

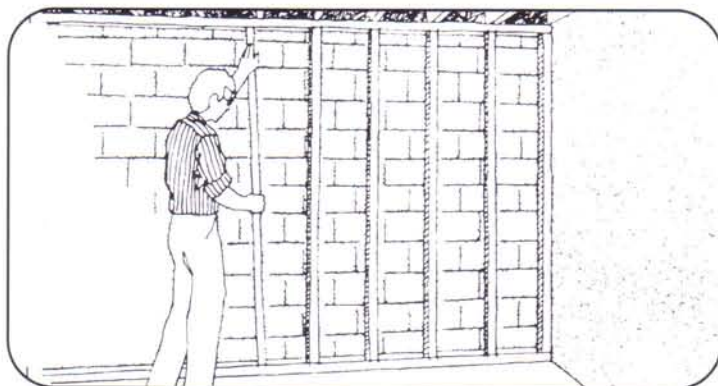
## Moulding Application

Apply base moulding as shown, wood or vinyl with adhesive, door and window trim to steel framing with 1-5/8" trim head screws and to wood jambs with finishing nails. Space all fasteners at 16". Apply inside or outside corner trim as required.



## CONSTRUCTION TIPS

**Furred Walls** - No furring strips are needed when paneling exterior walls, simply install framing in front of wall to be paneled, and as close to wall surface as possible. Follow standard framing and paneling procedures previously outlined, except space studs at **16"** instead of **24"**. If exterior wall is below grade, coat wall surface with waterproofing compound or install waterproofing paper before installing framing. Then insert required batt insulation to achieve required R-value. Framing may be required to be set away from the wall in order to accommodate insulation thickness.

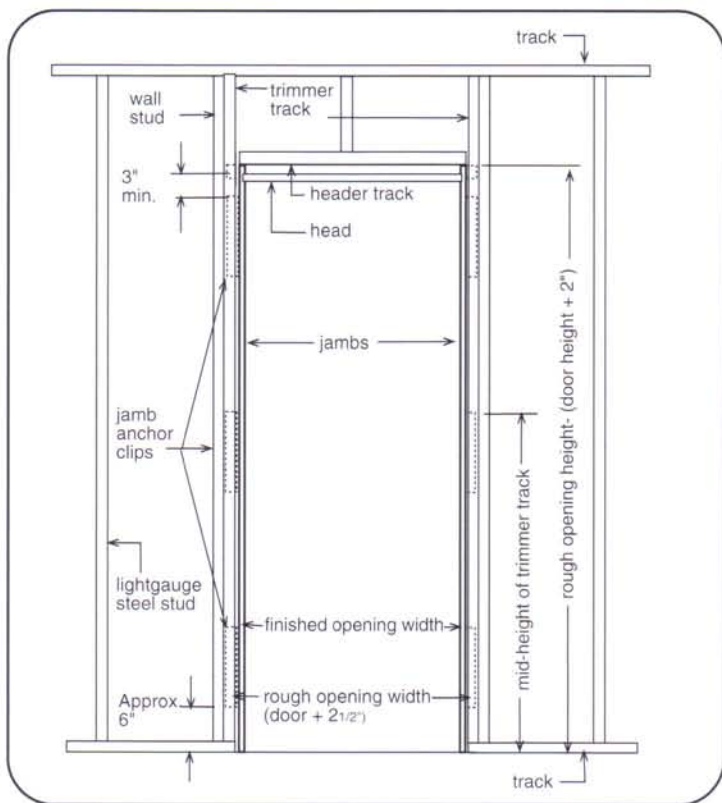


**Door Frame Installation** — The Door Rough Opening Width is Door Width plus 2-1/2". At door location cut the Door Rough Opening Width in the track. Set wall stud in track, and trimmer stud (actually a track section) back-to-back against wall stud, on each side of door opening so that clear opening between trimmers is the same Door Width plus 2-1/2" (see detail, page 5).

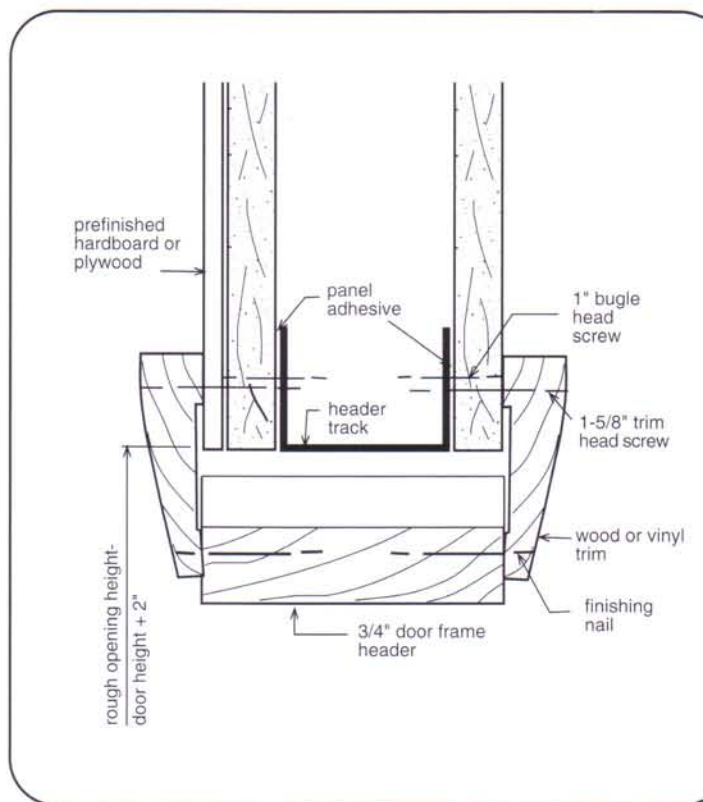
Door Rough Opening Height is the Door Height plus 2", measured from Finish Floor. Cut header from a track section 3-3/4" longer than rough Opening Width, then cut perpendicular through both flanges at 2" from each end, to web (but not through it) and bend down the web 90°. Install header flanges up, with web at Door Rough Opening Height, by inserting ends into trimmers. Hold header level, in position, while cutting and crimping flanges of trimmers with pliers, or fastening with wafer head screws on each side. Then apply gypsum panels (1/2" thick for base panels, 5/8" for finish surface) to framing as previously outlined.

Cut vertical wood jambs and horizontal wood header to size using nominal 1" dressed boards or interior jamb stock. Assemble head and jambs with nails. Cut jamb anchor clips (pieces of metal stud about 12" long) and snap into trimmer studs 3" from top, and at middle and bottom on both sides. Apply continuous 3/8" bead of adhesive to faces of jamb anchor clips on one side. Insert wood frame, align outside edges with wall panel surfaces, and attach to jamb anchor clips with 1-5/8" trim head screws, driven through jamb. Move frame to allow application of adhesive to jamb anchor clips on second side, align outside edges of frame with wall panels, and attach to clips in same manner as above. Plumb and square jamb, and fasten jamb anchor clips to framing with 1" bugle head screws, driven through gypsum face panel and into trimmer studs. Replace any panel attachment screws that had been removed for insertion of door jamb.

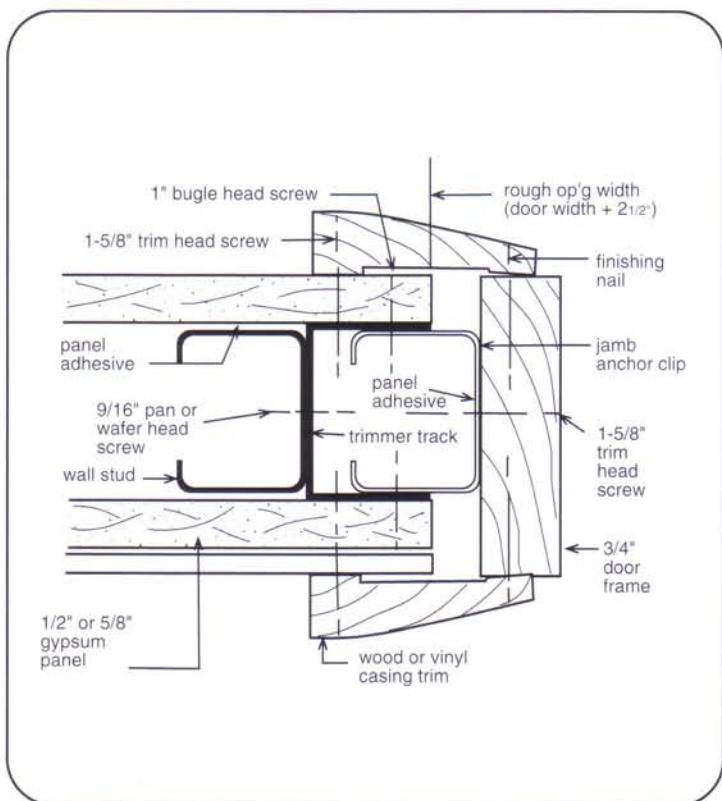
## WALL/DOOR FRAME ELEVATION



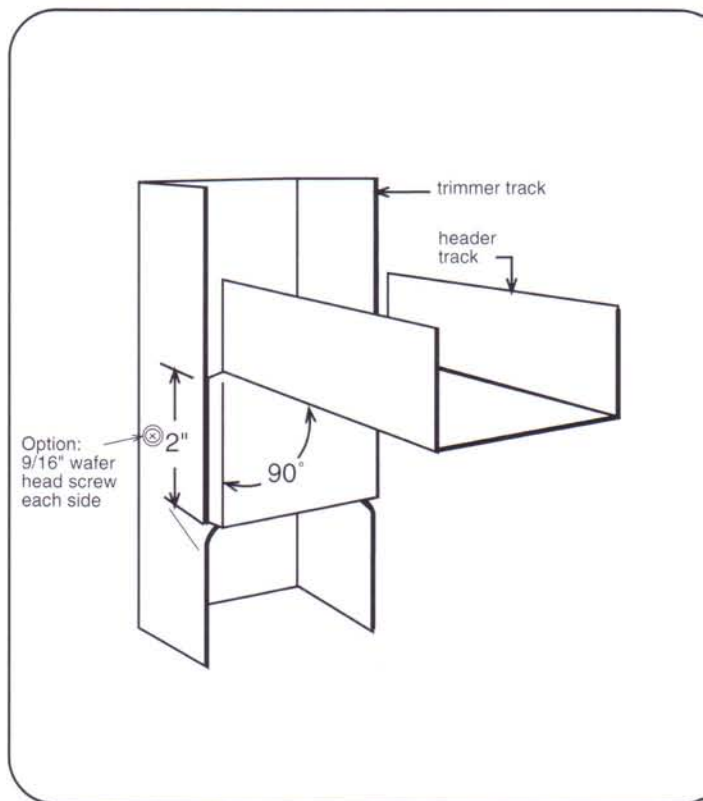
## HEAD DETAIL



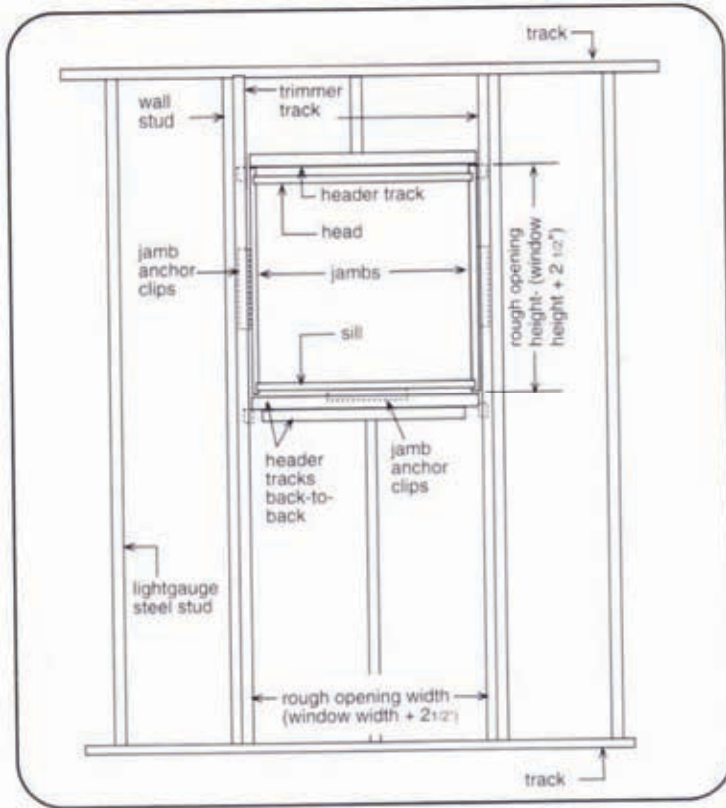
## JAMB DETAIL



## HEADER DETAIL

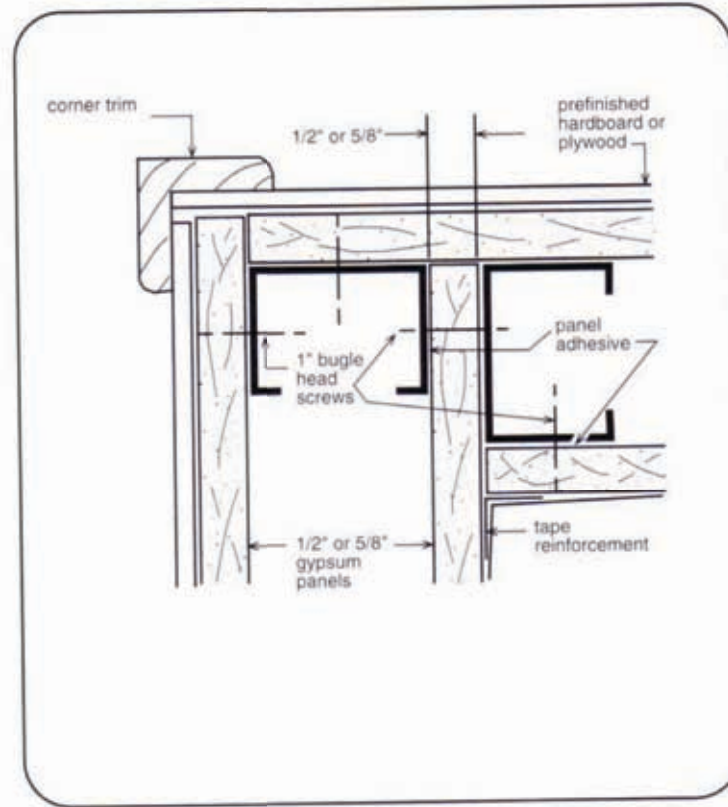


## WALL/WINDOW FRAME ELEVATION



**Window Frame Installation** -- All window framing members and trimmer studs are track sections. Install trimmer studs, fastening to wall studs with 9/16" wafer head screws, then the frame in the same manner as described for door frame. Fasten jamb anchor clips to trimmer studs with 1" bugle head screws, driven through gypsum face panel.

## CORNER FRAMING



**Corner Framing** -- Fasten corner stud to track at top and bottom.



# Homesteel