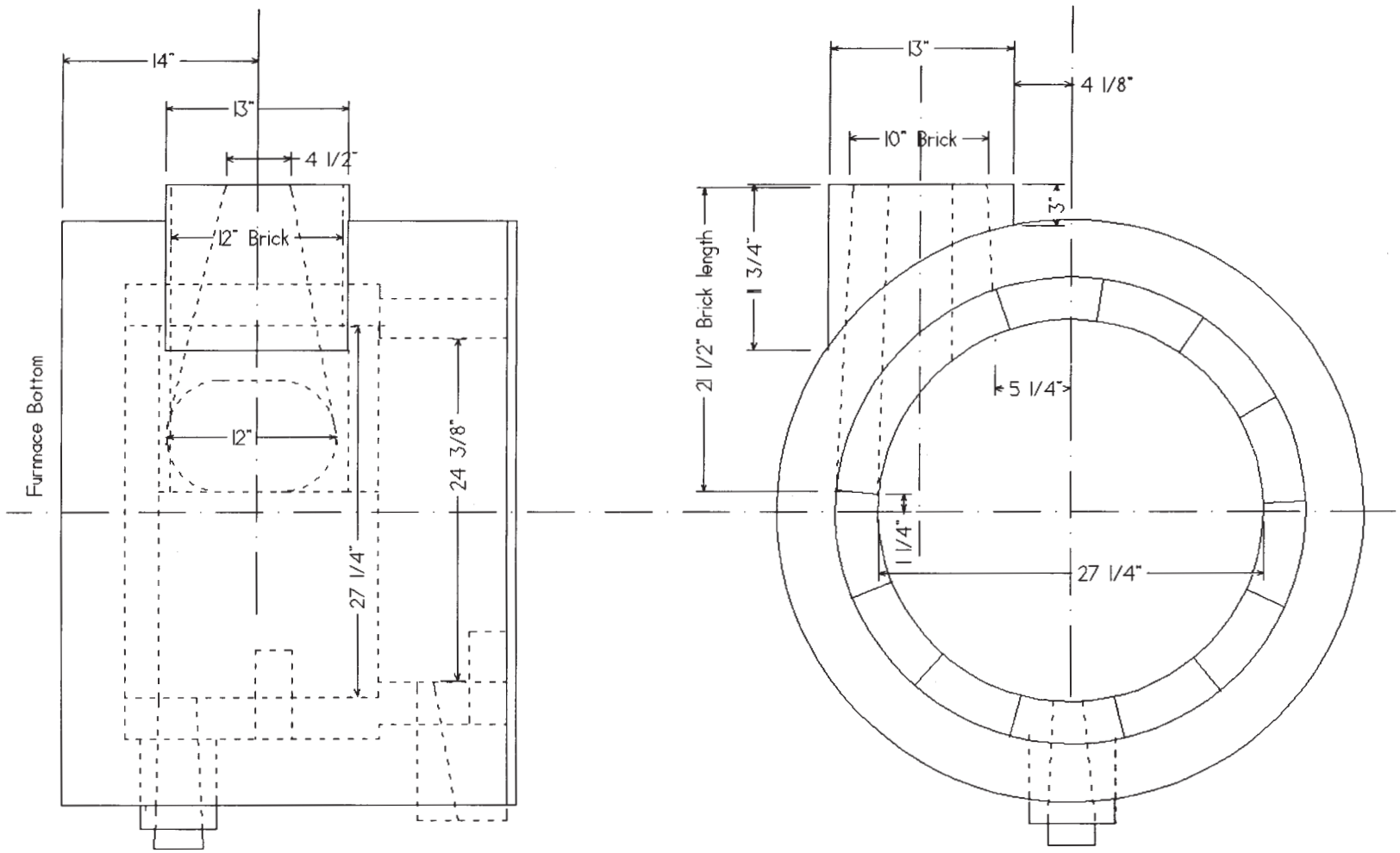


The two bottom rows of bricks have 22 bricks. This includes 1 drain brick and 1 crucible support liner brick.

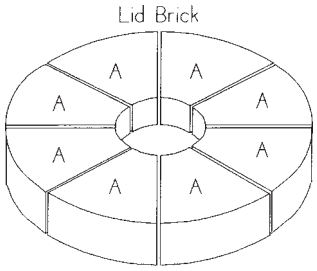
The bottom two rows also includes one large burner brick.

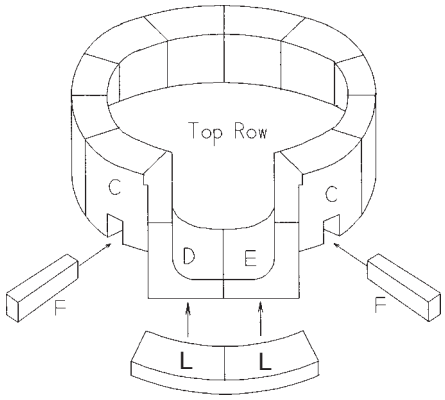
Top Row only has 12 bricks, counting 2 pour spout bricks and 2 notched crucible support bricks. Also in the top row are 2 pour spout spacer bricks. Inside dia. of top row is about 24"

A:\102800

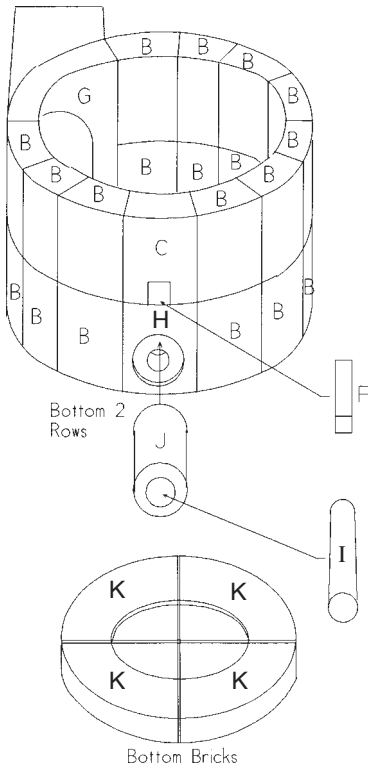
T200 Oil Fired	Special
Brick Location	
MIFCO	10/6/97

RELINING INSTRUCTION FOR T200 FURNACE





	OPN	DESCRIPTION	QTY
A	008130	Lid Section	8
B	008131	Solid Side Liner	28
C	008132	Crucible Wedge Liner	3
D	008138	Pour spout Left Half	1
E	008135	Pour Spout Right Half	1
F	008160	Crucible Support Bricks	3
G	008090	Burner Brick - (Cast)	1
H	008139	Drain Plug Liner	1
I	008088	Drain Plug	1
J	008092	Drain Tile	1
K	008137	Bottom Brick	4
L	008134	Pour Spout Spacer	2
	008171	MatriLite Cement	1050lbs.
	008189	Minro-Fire Cement	55lbs.
	008173	RS-Sealer	4 - 20lb. Boxes



The MIFCO furnaces have been designed so that relining is rapidly and easily done. Complete relining kits are available as a package unit. These kits include all replacement refractory shapes, insulation and the correct type of refractory mortar. Structural parts of the furnace which are subject to normal abuse, and may need replacement, are available. Relining procedure is as follows:

1. Remove the burner manifold and burner from the furnace body.

2. Remove the front clamp bolt from the lid band. Spread the lid band and remove the eight (8) lid sections, ìAî bricks.

3. Remove the lid lift assembly by lifting it out of the base tube. Replace lid band and lid support rods if damaged by heat. Be careful when disassembling not to lose any bearings or bushings in the jack tube.

4. Remove six (6) top seal sections around the top of the furnace by removing the hex nuts on the top of the furnace. Remove all refractory and insulation from the furnace shell. Replace seal hold down bolts if broken.

5. Mix enough of the insulation (Matrilite #28 in 30lb. bags) to fill the bottom of the shell up to the top of the brick support ribs and strike off even with the top of the ribs after the cement sets up for awhile.

6. Mix 2 of the 20lb. boxes of the RS Sealer with water to the consistentcy of thick paint. This will help to hold the bricks in place. This sealer will also be used as a mortar between the rows of bricks.

7. Locate the four sectioned Bottom Bricks and position in the bottom of the furnace in the center of the ring of bricks that were placed in the previous step. Be sure to place the indented side up and to center these bricks in the circle. Use the refractory sealer to cement the edges of these four bricks together. Locate 2 small, square bricks that are 2 1/2î high. Place the two small bricks on the cast insulation, in front of the burner area. These will be used to support the burner block when it is placed.

8. Find the large cast burner brick. Place a small amount of refractory sealer around the hole that enters into the burner chamber, against the inner burner. This sealer will help seal the two pieces together and prevent the flame from protruding out into the shell area. Push the brick back into itís final position.

9. Locate three Solid Side Liner Bricks. Dip these bricks in water, then dip the sides into the refractory sealer - one at a time. You are now ready to form your the inner chamber wall. Note on the drawing that there are three bricks (Letter B) to the left of the Front Drain Liner Brick. Place the three Side Liners into position. Make sure that the Drain Liner Brick is directly in front of the drain hole in the front of the furnace shell. After these bricks are in place, you can continue on around the circle with Solid Side Liners to complete the bottom row.

10. Now locate the 55lb. bag of MinroFire castable cement. Mix with water to a plaster like consistency. This material will be placed between the bottom bricks and the side wall of the chamber to complete the bottom of the chamber. Force the material under the burner brick, making sure that there are no air pockets. Strike off level with the bottom bricks in the chamber.

11. Locate the Drain Tile Brick (Letter J), dip in water and then one end in the refractory sealer. Place this brick in front of the Drain Liner Brick, into the indentation, and put the Drain PLug Brick (Letter K) through both bricks to help keep them aligned. Then cut a piece of plywood or steel large enough to cover the opening in the shell around the Drain Tile Brick. Cut an opening for the Drain Tile to stick through. Band this piece to the furnace shell. This will prevent the castable insulation from running out.

12. Locate the bags of Matrilite #28 (30lb. bags). Mix according to instructions on the bags, plus 1/2 pint more water per bag. Mix enough insulation to fill the area behind the first row of bricks. Fill the area up to 2 inches from the top of row one.

13. We are now ready to start row 2. At this time, mix the remainder of the Refractory sealer. Mix fairly thin. Place a layer of refractory sealer around the top of row 1 about 1/4î thick. Proceed by dipping the Solid Side Liners in water then one side in the refractory sealer. Start on the left at the Burner Brick and work your way around to the front. Locate the Crucible Support Side Liner (Letter C) and place directly in front, as shown in the drawing. Now proceed on around to the Burner Brick. This should take 7 more Solid Liners.

14. Mix enough of the Matrilite #28 insulation to fill behind row 2 up to 2î from the top of the row. We do not pour to the top of the row so that there is not a seam all the way out to the shell. This could cause a hot spot on the shell.

15. On the top row, wet the mating surfaces between the middle and the top row. Pour a ring of refractory sealer around the top of row 2, about 1/4î thick. Set the top row of bricks down on top of row 2, being sure to work them around to get a good seal between the rows. The bricks D and E must line up with the pour spout in the furnace shell. Next, cut the bands on the top row and cement in the Pour Spout Bricks. These two bricks (D and E) will have to be supported on the outside with a board, which will also serve as a form when pouring insulation. Cut a U shaped board and place around the Pour Spout Bricks to help hold them in place and band to the furnace shell. Locate Crucible Support Bricks (Letter F) and slide them into position prior to pouring insulation.

16. Mix the remaining Matrilite #28 insulation per instructions in step 12. Do not mix the insulation for a long time. You want the mixture to be able to flow easily. It would be wise to use a vibrator or to prod the insulation with a board to insure that there are no hidden air pockets. Fill the area behind the bricks to the top, PLUS about 2î and let sit for about 1/2 hour. With the insulation about 1/2î above the top of the bricks, replace the top seal segments.

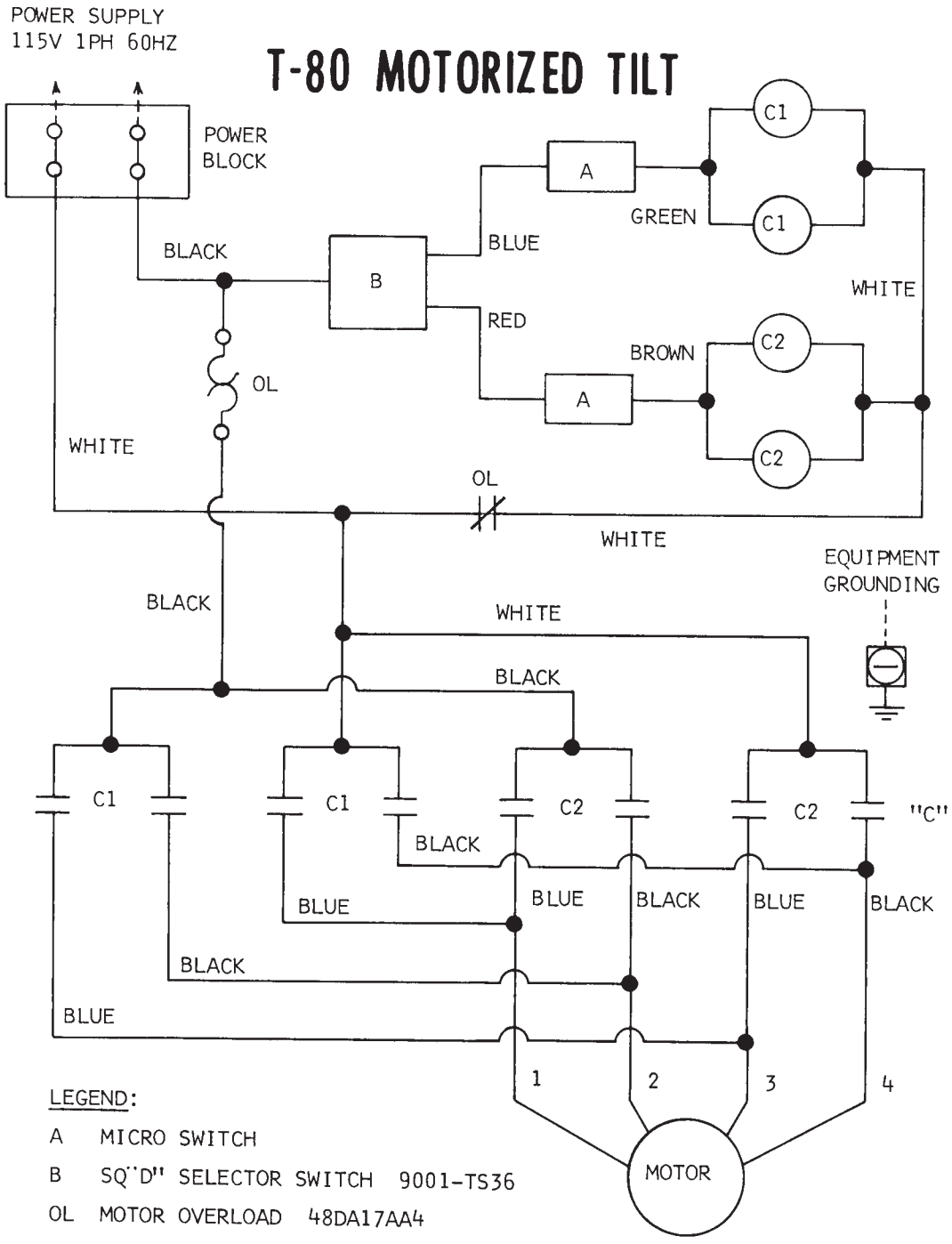
17. Replace lid brick ìAî and lid band bolt and tighten until snug. Tap band with mallet. This will shift bricks slightly to allow for additional tightening. Continue this until it will tighten no more and then back the nut off one (1) turn to allow for expansion of the bricks. Over tightening will cause the lid bricks to crack when they expand from heating.

18. Add water to remaining mortar until you can brush it on and coat all surfaces of the furnace lining including the lid. **Do not get the mortar too thin** or it will come off as a powder when dry.

19. The furnace should set at least twenty-four hours to allow cement to cure. After this, the furnace should be fired slowly to dry out all moisture from the insulation and lining. Firing at Hi-Fire right away will cause steam to form in the bricks and blow them apart.

20. Put a coating of grease on the lid lift sliding parts before reassembly. Replace bricks ìFî after crucible is in place. **Do not cement** these in place because they have to come out when changing crucible.

T-80 MOTORIZED TILT



LEGEND:

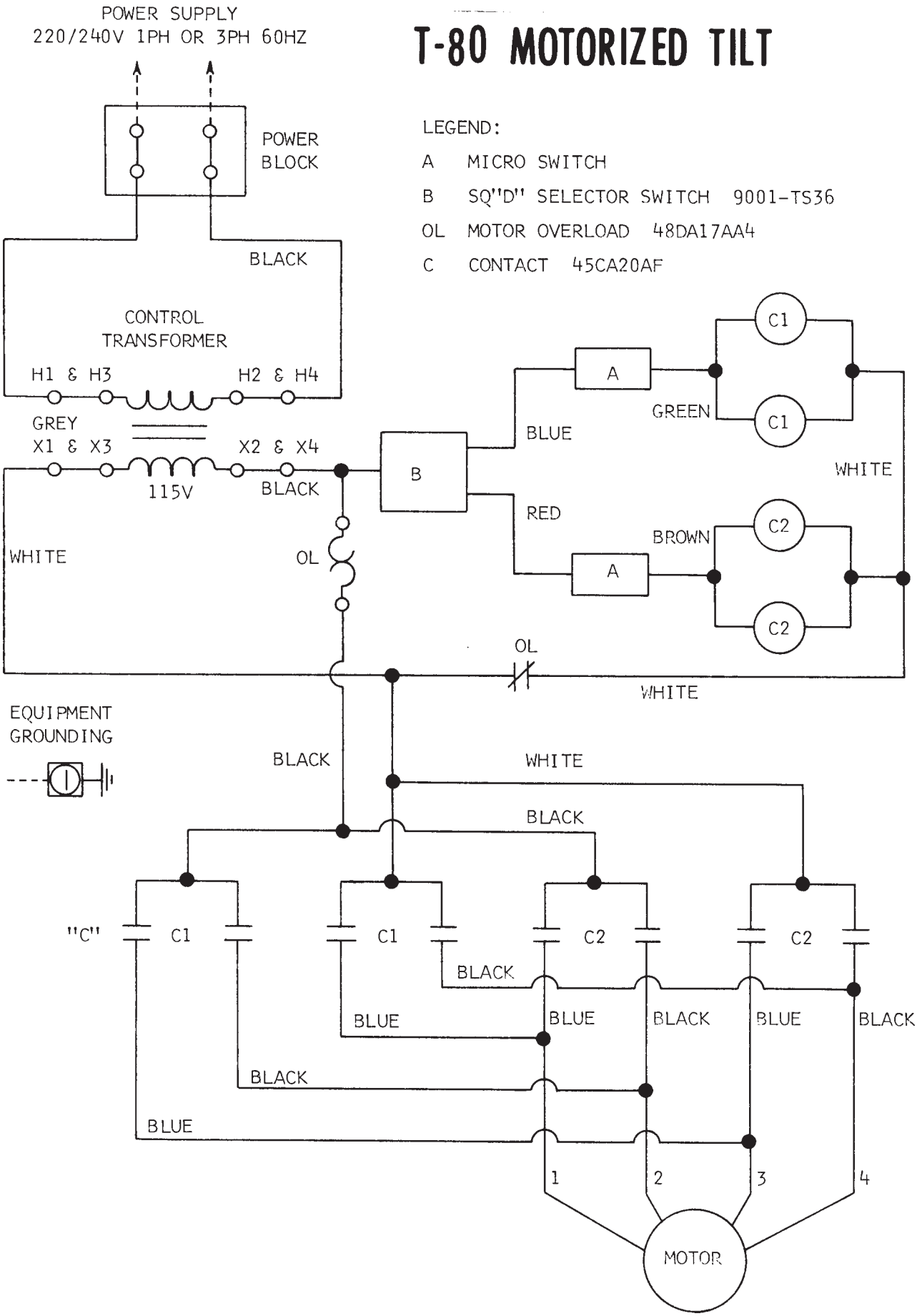
A MICRO SWITCH

B SQ"D" SELECTOR SWITCH 9001-TS36

OL MOTOR OVERLOAD 48DA17AA4

C CONTACT 45CA20AF

T-80 MOTORIZED TILT



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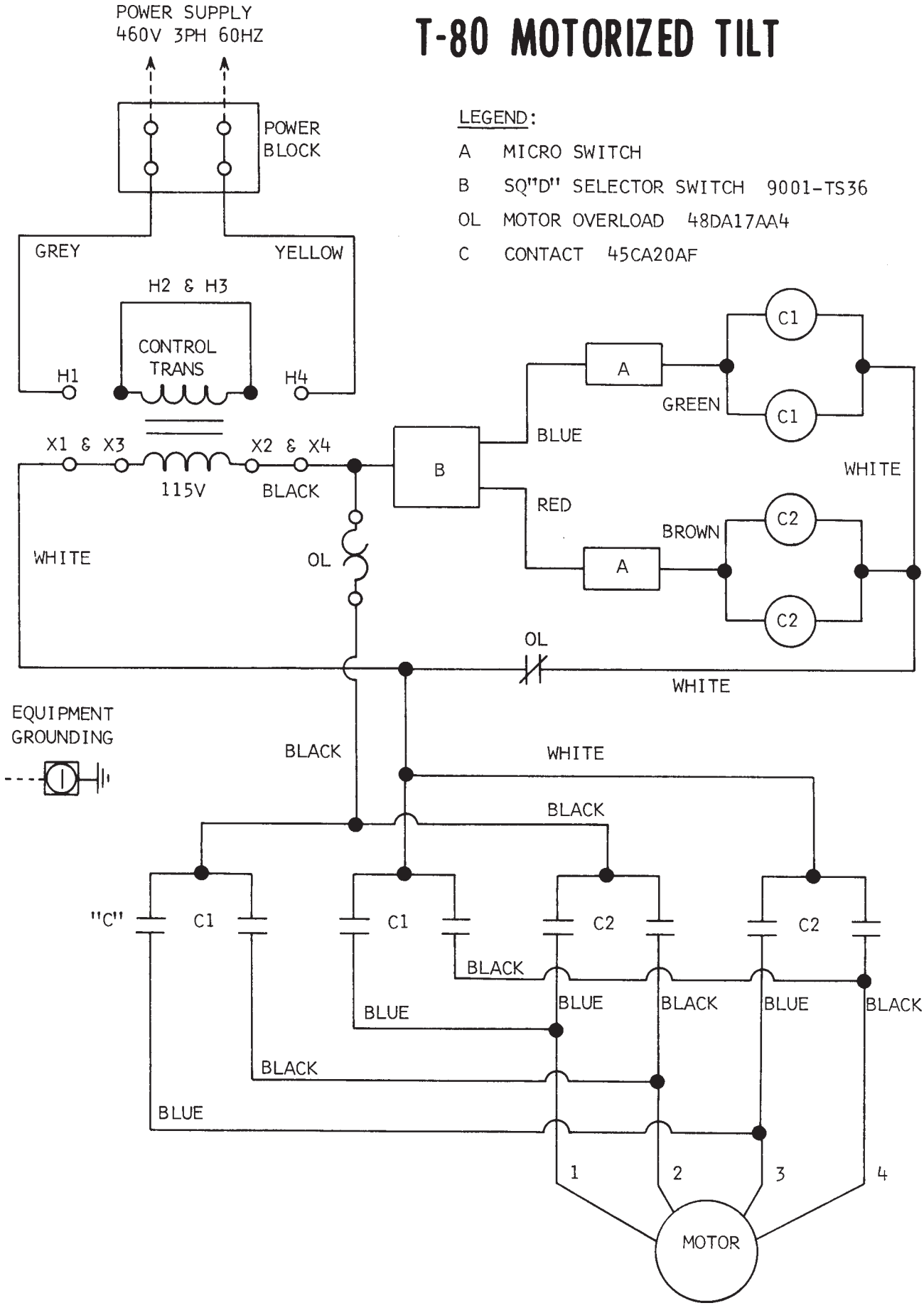
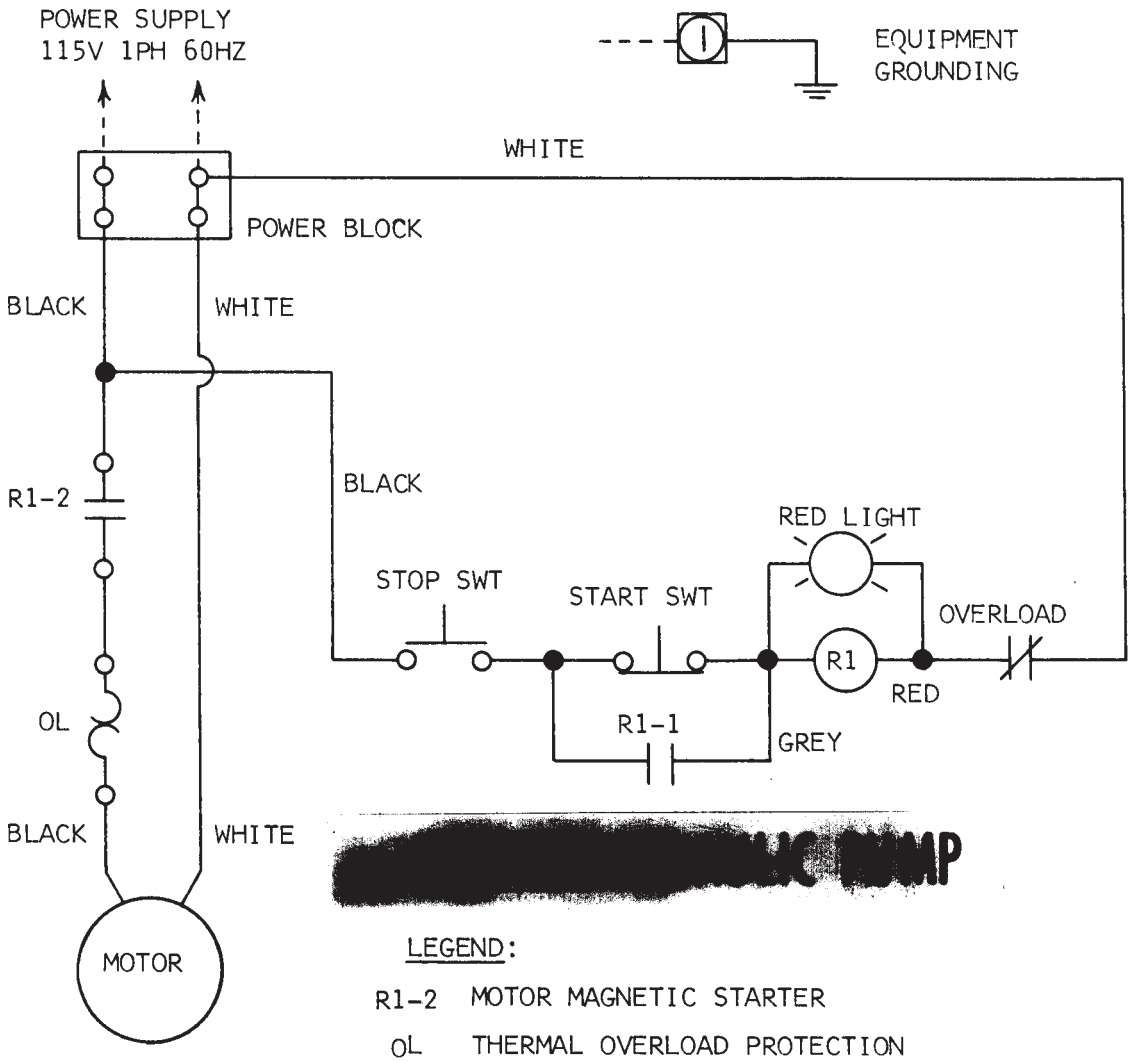


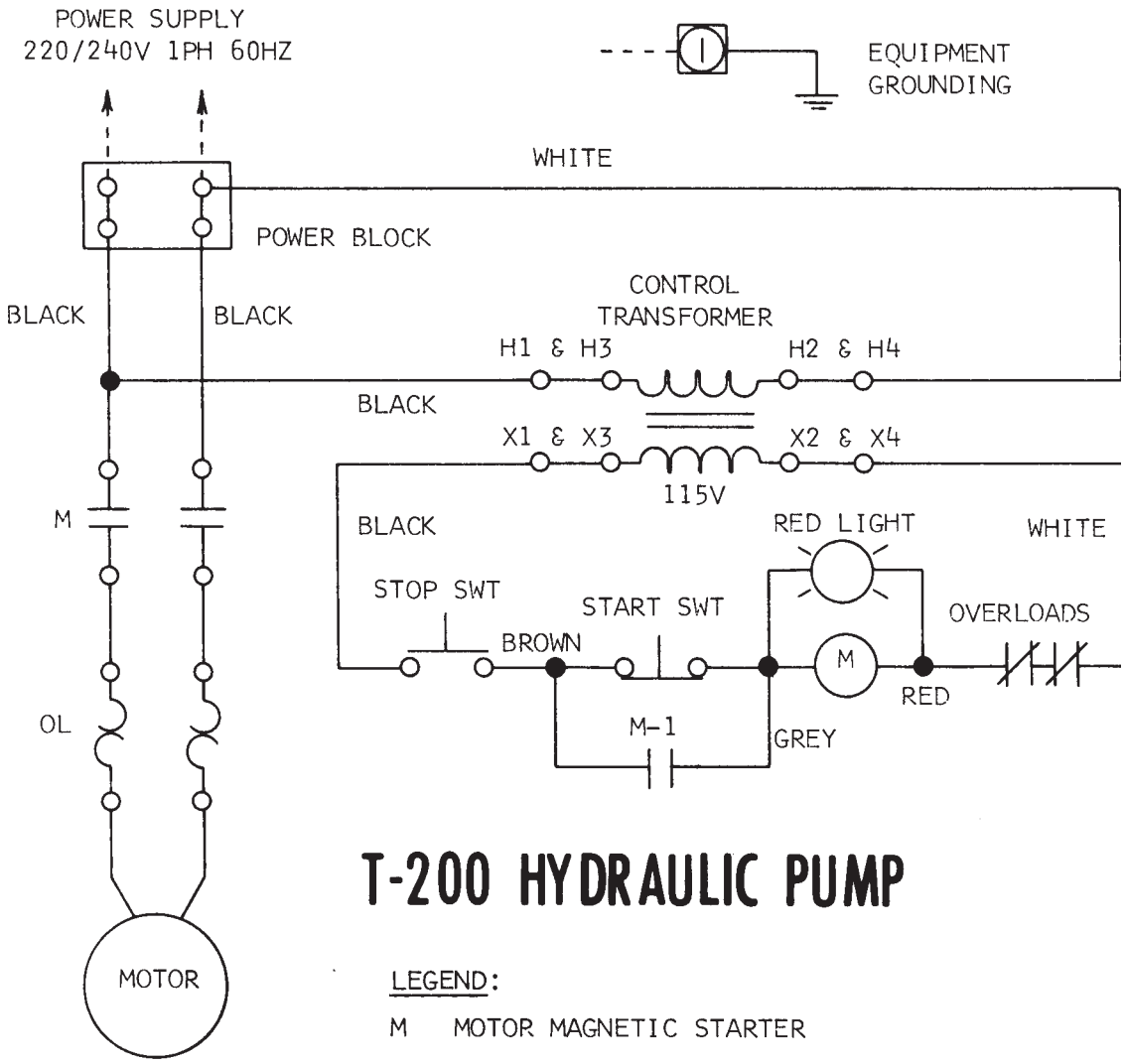
LEGEND:

A	MICRO SWITCH
B	SQ"D" SELECTOR SWITCH 9001-TS36
OL	MOTOR OVERLOAD 48DA17AA4
C	CONTACT 45CA20AF



LEGEND:

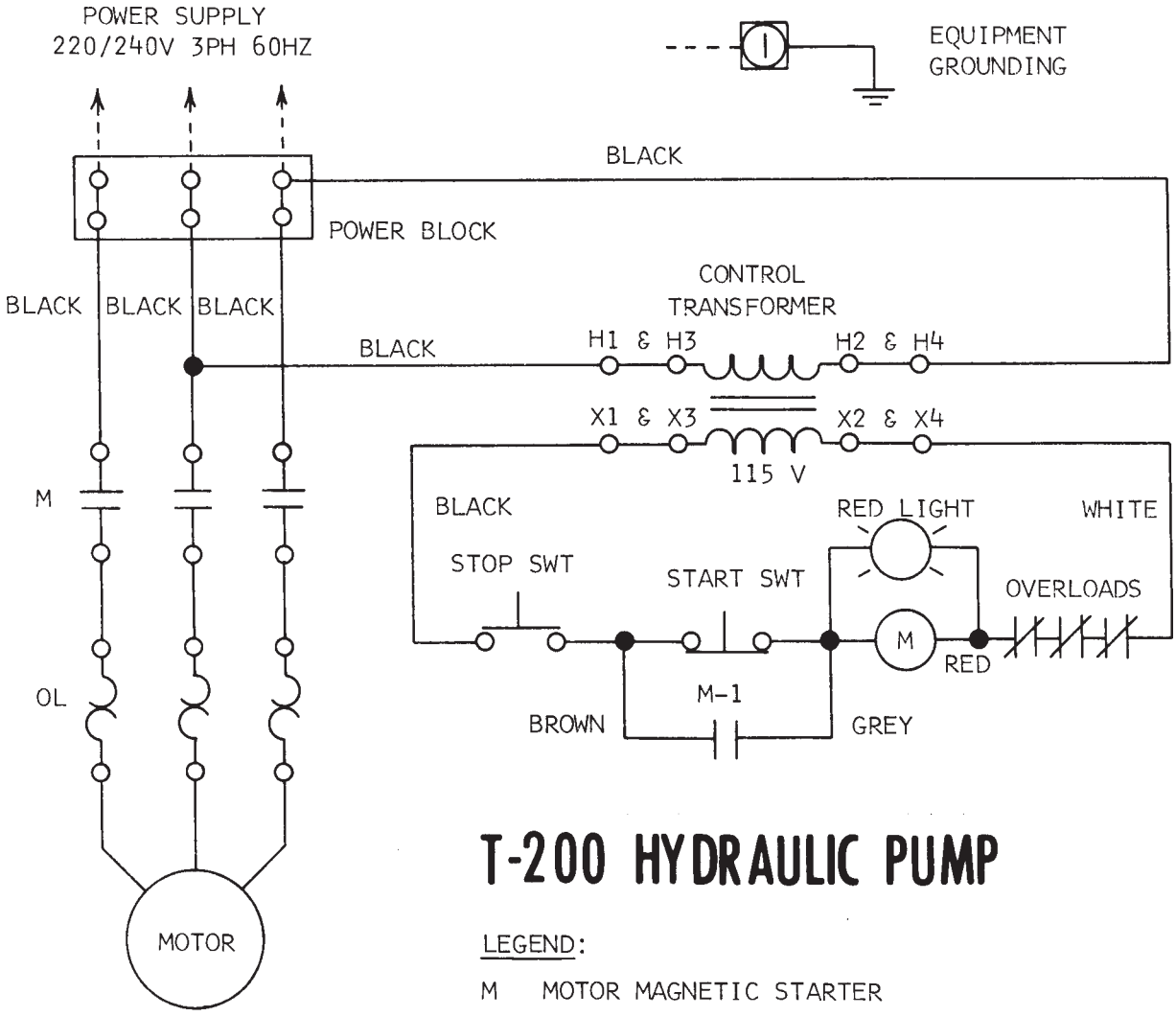
R1-2	MOTOR MAGNETIC STARTER
OL	THERMAL OVERLOAD PROTECTION
R-1	STARTER AUXILIARY CONTACT *(Normally Open)*
(R1)	MAGNETIC COIL
——	FACTORY WIRING
- - - -	FIELD WIRING



T-200 HYDRAULIC PUMP

LEGEND:

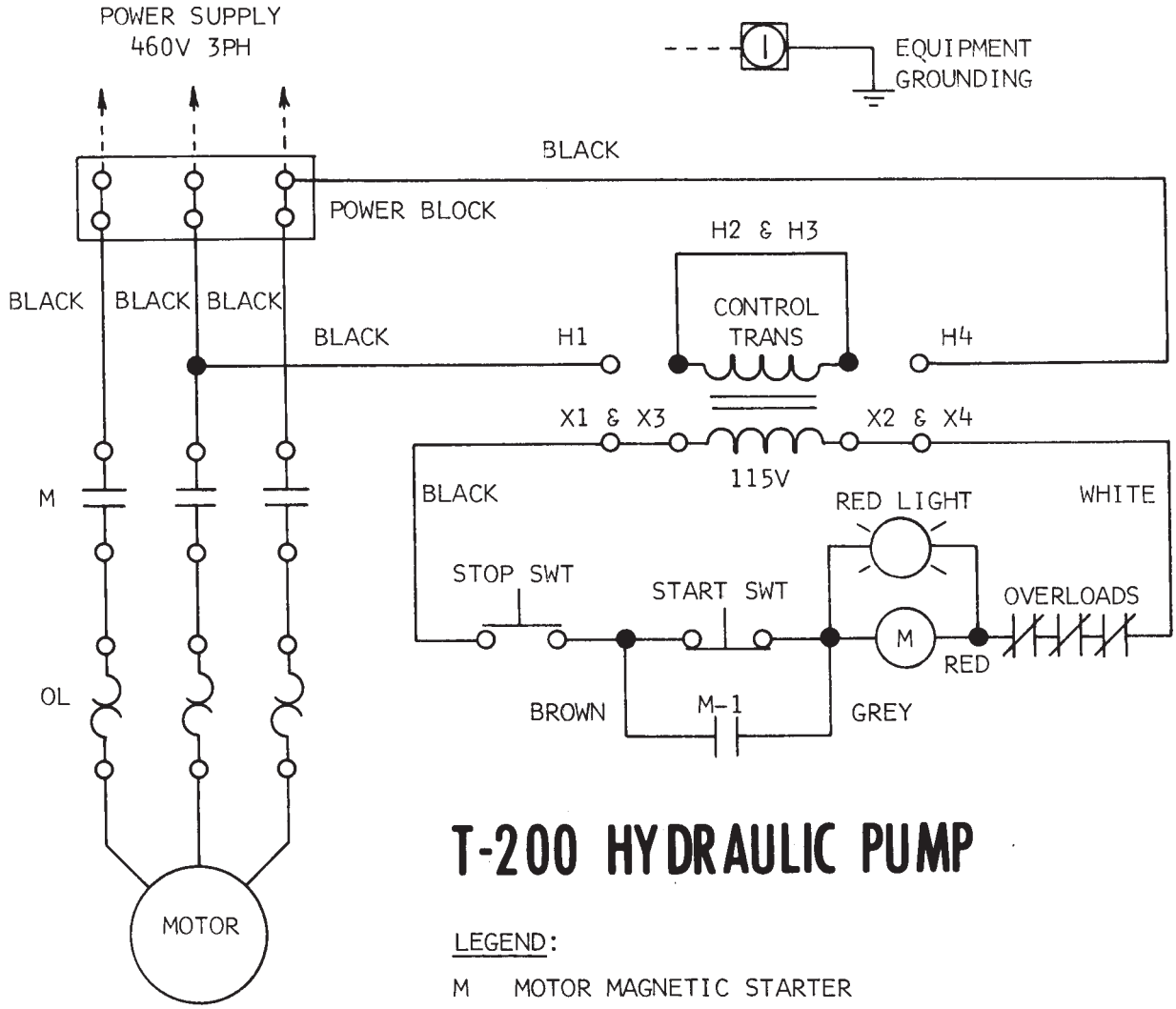
M	MOTOR MAGNETIC STARTER
OL	THERMAL OVERLOAD PROTECTION
M-1	STARTER AUXILIARY CONTACT *(Normally Open)*
(M)	MAGNETIC COIL
———	FACTORY WIRING
- - - -	FIELD WIRING



T-200 HYDRAULIC PUMP

LEGEND:

M	MOTOR MAGNETIC STARTER
OL	THERMAL OVERLOAD PROTECTION
M-1	STARTER AUXILIARY CONTACT *(Normally Open)*
(M)	MAGNETIC COIL
——	FACTORY WIRING
- - - -	FIELD WIRING

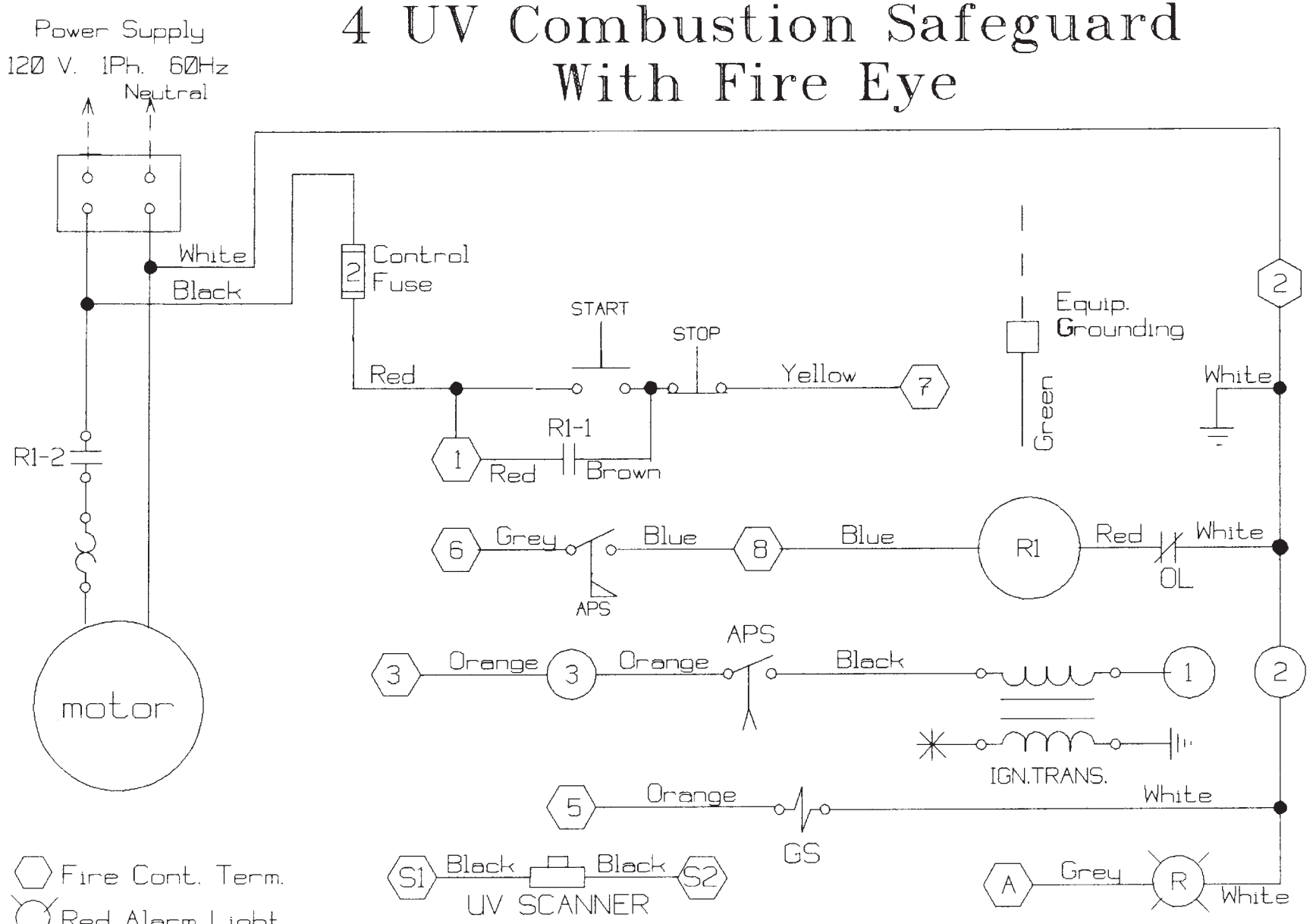


T-200 HYDRAULIC PUMP

LEGEND:

M	MOTOR MAGNETIC STARTER
OL	THERMAL OVERLOAD PROTECTION
M-1	STARTER AUXILIARY CONTACT *(Normally Open)*
(M)	MAGNETIC COIL
———	FACTORY WIRING
- - - -	FIELD WIRING

4 UV Combustion Safeguard With Fire Eye



Fire Cont. Term.

Red Alarm Light

APS- Air Pres. Switch

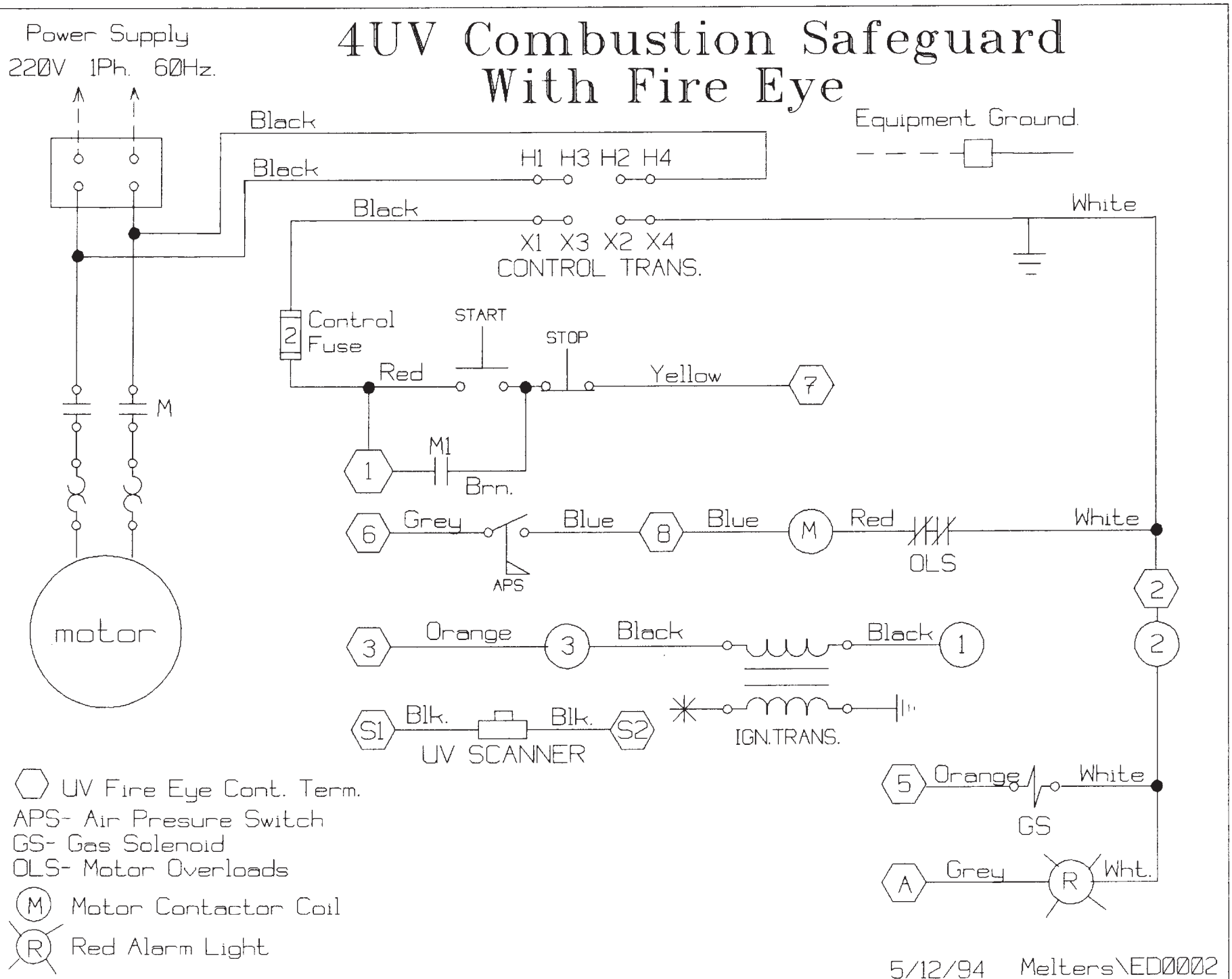
GS- Gas Solenoid Valve

R1- Motor Starter Mag. Coil

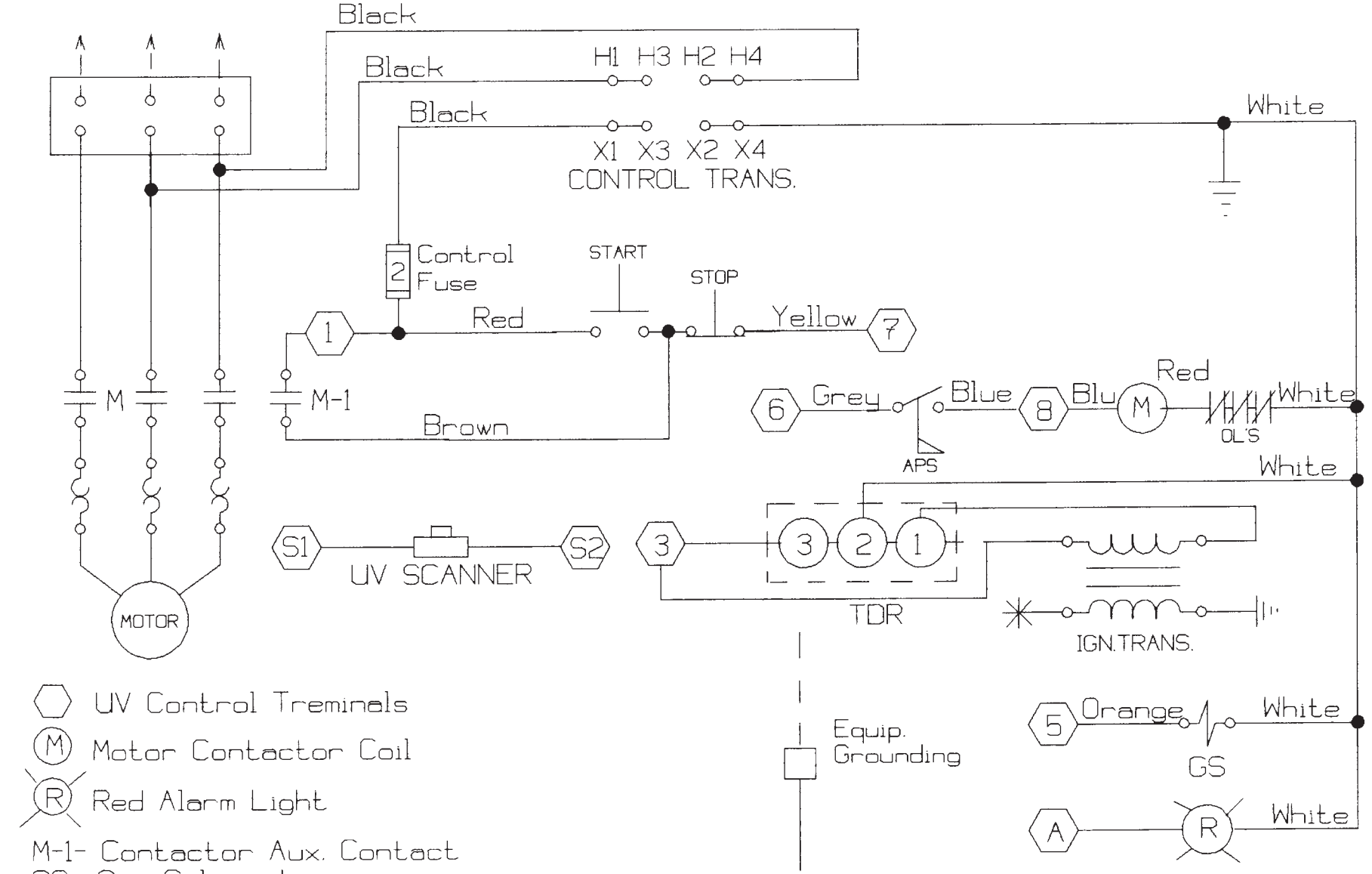
OL- Motor Overload

5\11\94 Melters\ED0001

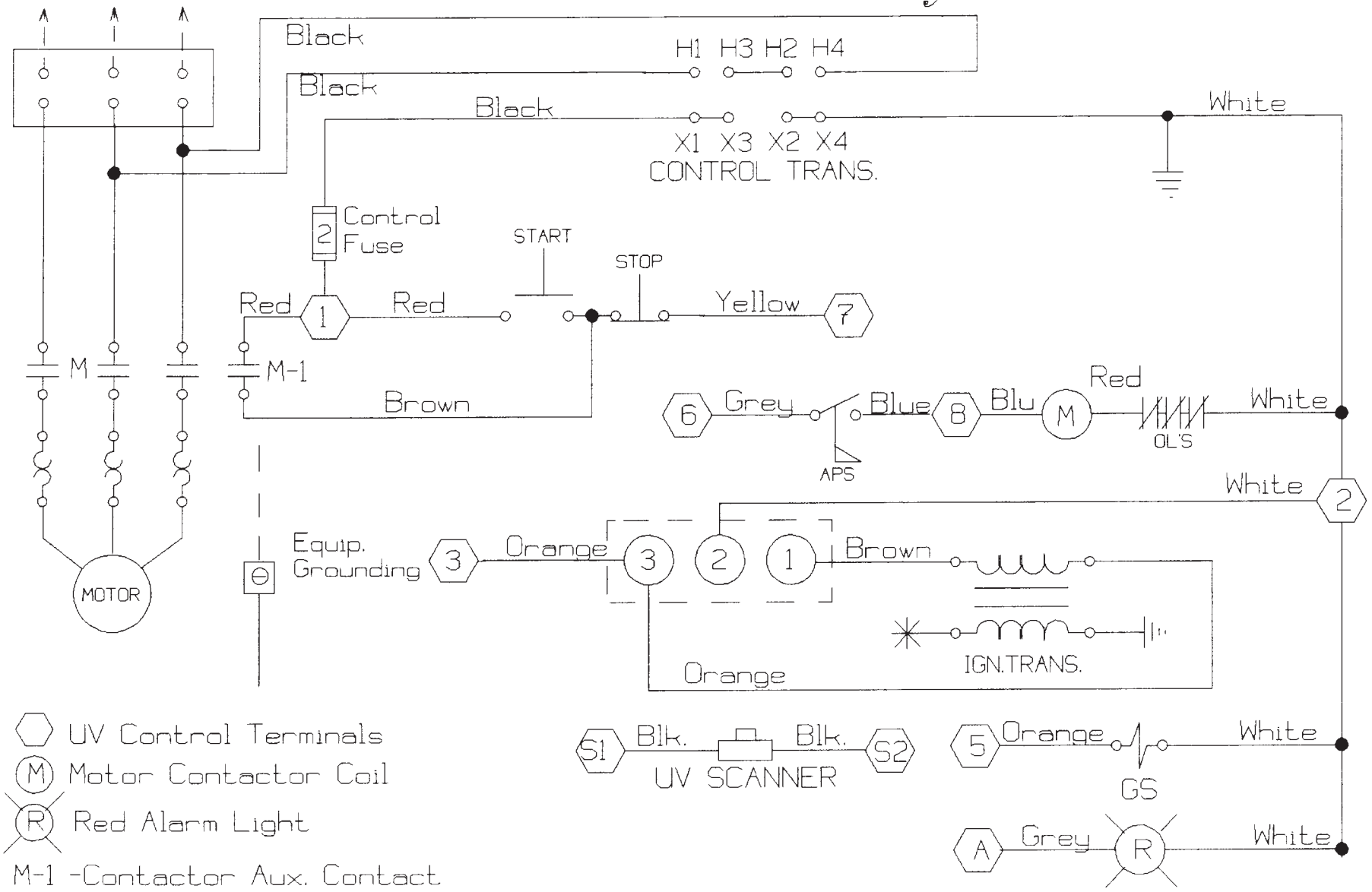
4UV Combustion Safeguard With Fire Eye



UV Combustion Safeguard With Fire Eye



UV Combustion Safeguard With Fire Eye



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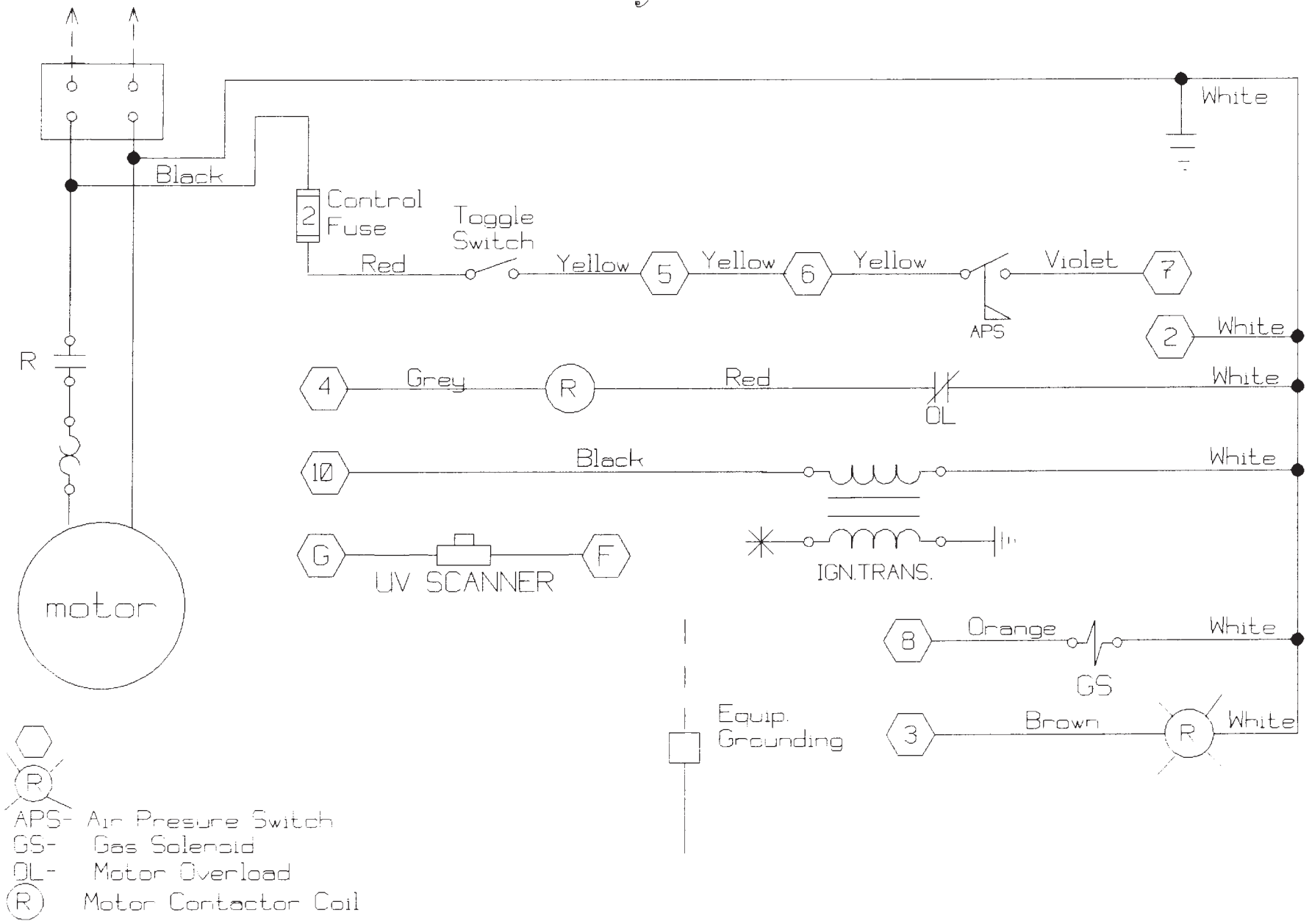
Melters\ED0004

UV Combustion Safeguard With Honeywell RM 7895 B



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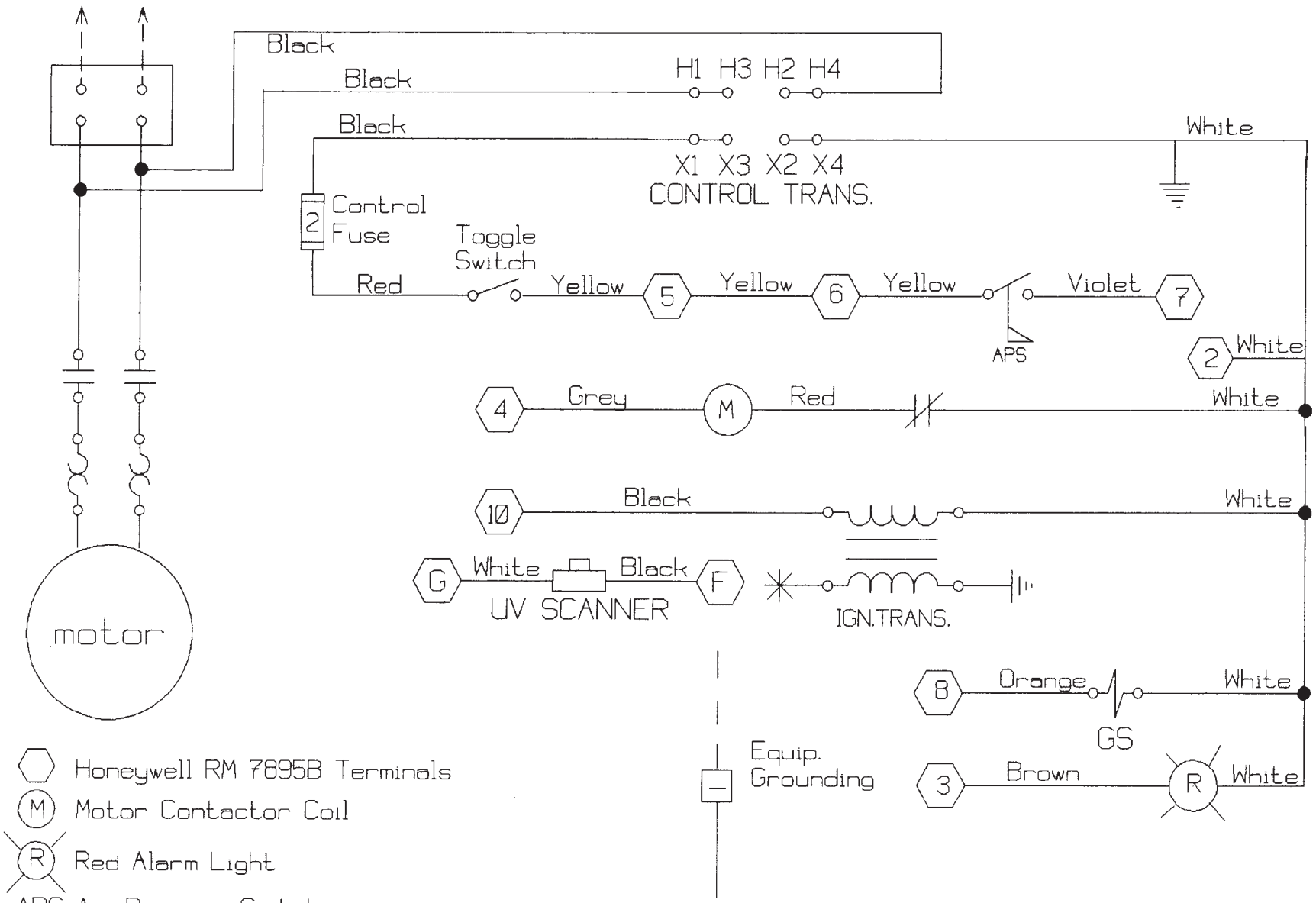
MFI TERS\FD0005

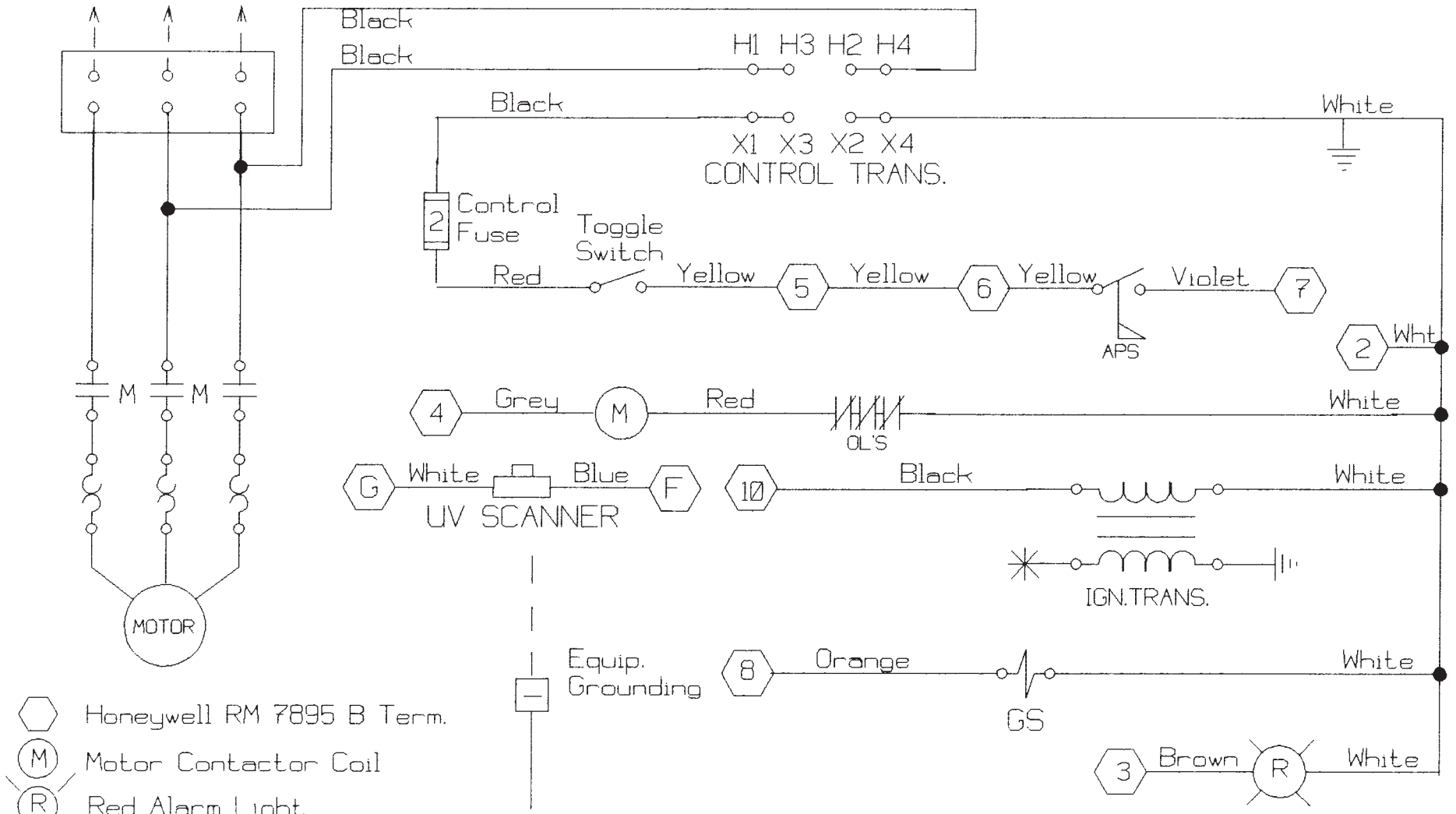
Power Supply
220V 1Ph 60 Hz

UV Combustion Safeguard With Honeywell RM 7895 B



UV Combustion Safeguard With Honeywell RM 7895 B

Power Supply
230V 3Ph 60Hz



Honeywell RM 7895 B Term.

M Motor Contactor Coil

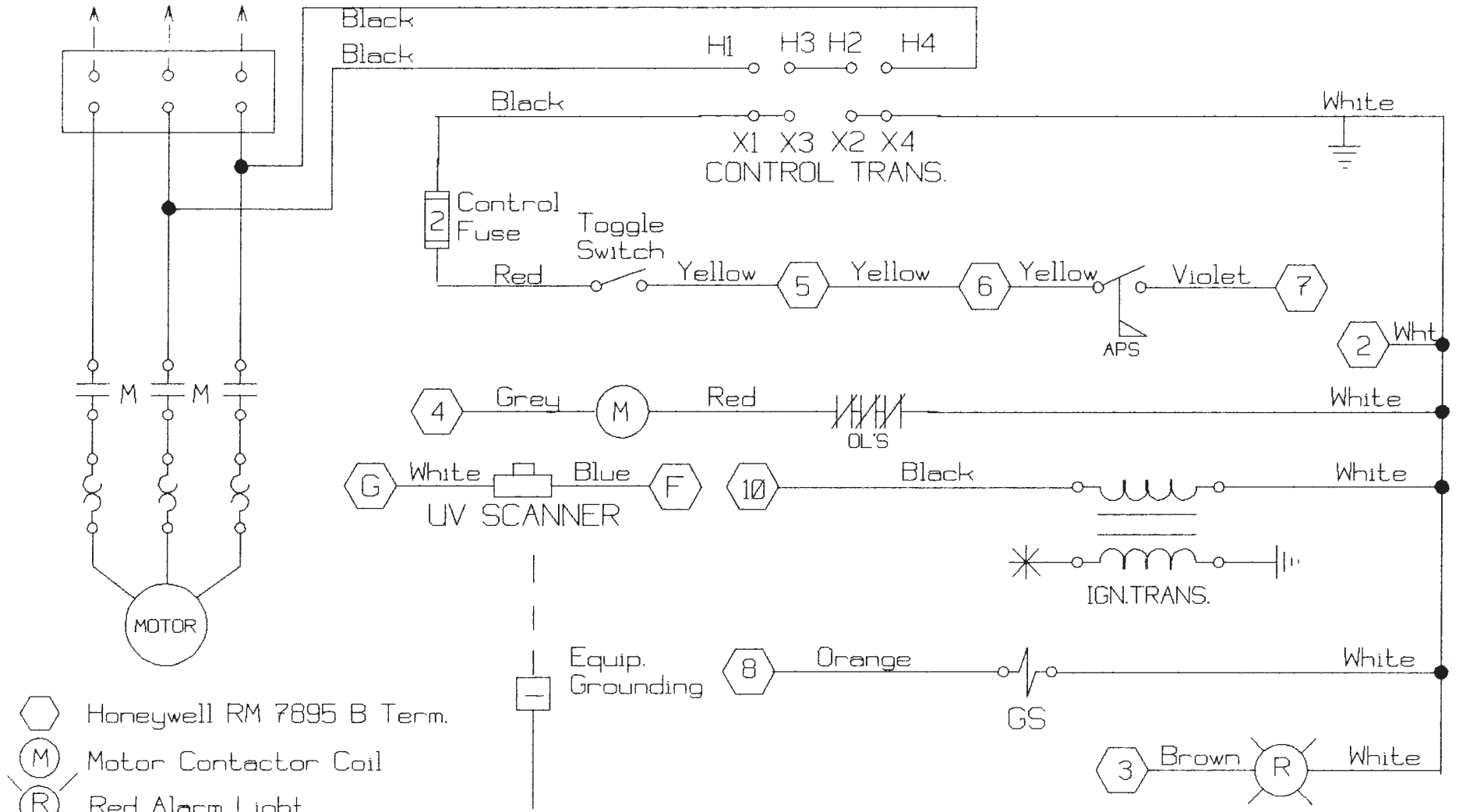
R Red Alarm Light

OLS Motor Overloads
GS Gas Solenoid Valve
M Motor Contactor

5/13/94 MELTERS\ED0007

Power Supply
460V 3PH 60Hz

UV Combustion Safeguard With Honeywell RM 7895 B



Honeywell RM 7895 B Term.
M Motor Contactor Coil
R Red Alarm Light
OLS Motor Overloads
GS Gas Solenoid Valve
M Motor Contactor

5/13/94 MELTERS\ED0008