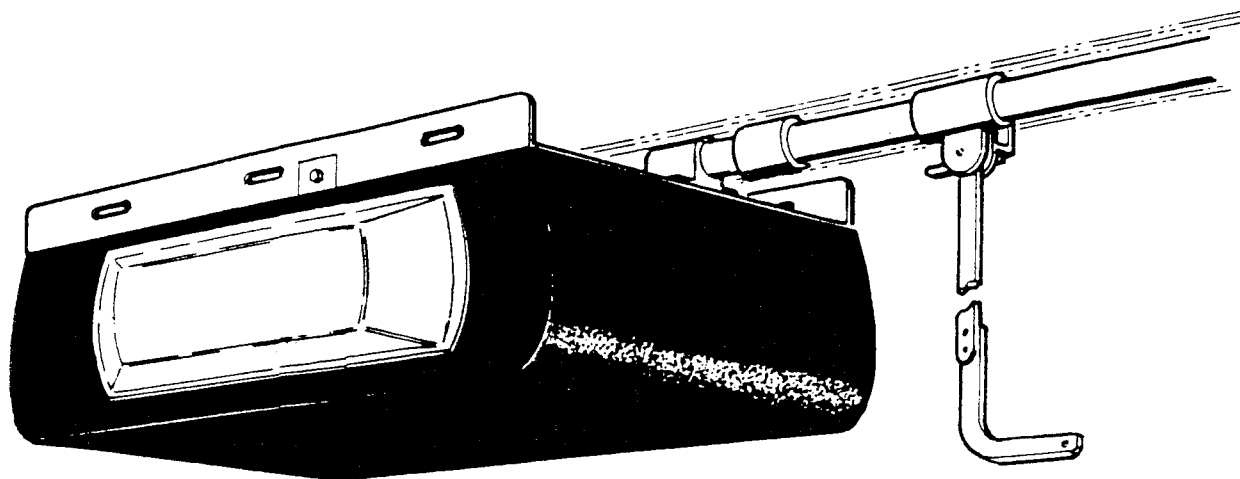




AUTOMATIC GARAGE DOOR OPENERtm

INSTALLATION INSTRUCTIONS TRV-300



TILT-A-MATIC MODEL TRV 300 (Powerhead only). This model is supplied complete with one hand transmitter

IMPORTANT

- Do not attempt to install or service the opener with the power connected.
- Do not put hands or tools inside the power head with the power on. All adjustment and installation connections are made externally.
- Stay clear of the opener when it is in motion. Never operate the opener from a step ladder.

WORKING OPERATION OF DOOR

An automatic garage door opener cannot move a garage door that is in poor working condition. The door must operate freely with no binding or obstructions, and must be well balanced. Check the spring balance of the door by bringing the door to the half open position and leaving it there. If the door stays in that position, it is well balanced. The door should be far easier to close than it is to open, for the automatic door opener to work correctly.

Where possible, it is recommended that the door springs be adjusted, and the opener be installed by a qualified B & D dealer.

CAUTION

- The opener is 240 volt and must be installed in accordance with AS-3000 Standard Electrical Code.
- During installation the opener must be properly grounded with the power turned off.
- Use screwdrivers ONLY, to adjust limit switches. DO NOT USE a spanner or pliers.
- Power should be 'OFF' while main cover is removed or replaced.
- The push button switch as supplied is for internal use only. If situated outside or near the door opening, this switch should be replaced by a weather resistant type, as defined in AS-3000.
- The door should be properly installed and adjusted, well maintained and free of all obstructions.
- Install push button in a convenient position, but at least one metre from any door fittings, and out of the reach of children.
- Operate only when the door is fully visible. Do not allow children to play with the door controls.

INSTALLATION OF CHAIN

STEP 1

Remove the sprocket cover (Fig.1) and position the trolley on the drive tube as illustrated (Fig.2).

STEP 2

NOTE: if the opener is to be applied to Jamb-Type Tilt-A-Dor fittings, refer instructions before proceeding. (Fig.8)

Roll out the chain assembly carefully to prevent tangling. Connect the trolley release rod to the connecting link through the drive trolley, but do not tighten. (Fig. 3)

Wrap the chain around the idler and drive sprockets on the drive unit ensuring the chain engages the teeth on both sprockets.

Extend the chain along the other side of the tube and around the return sprocket.

Ensure the trolley has not moved from the point as indicated in the diagram. (Fig.2)

Now install the connecting link to the trolley release rod as illustrated. (Fig.4)

NOTE: During the assembly the trolley release rod is actually engaged in the trolley. It is shown here removed for the sake of clarity.

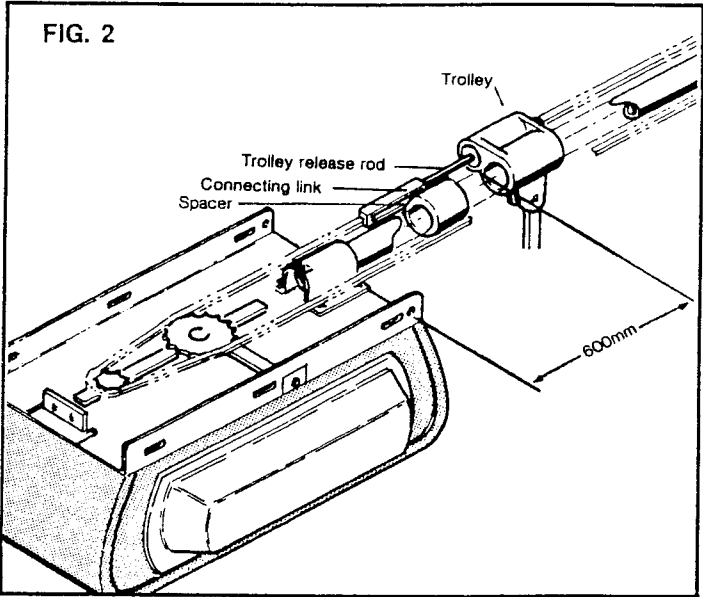
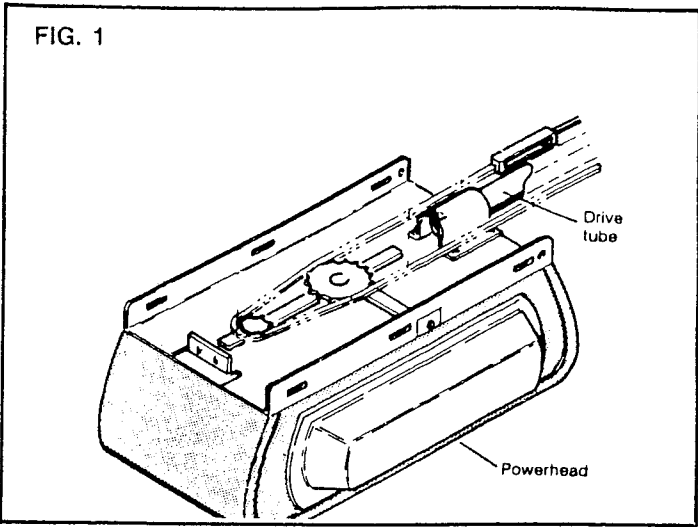
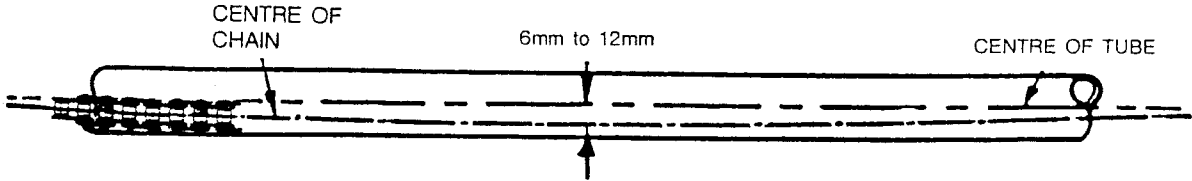


FIG. 3



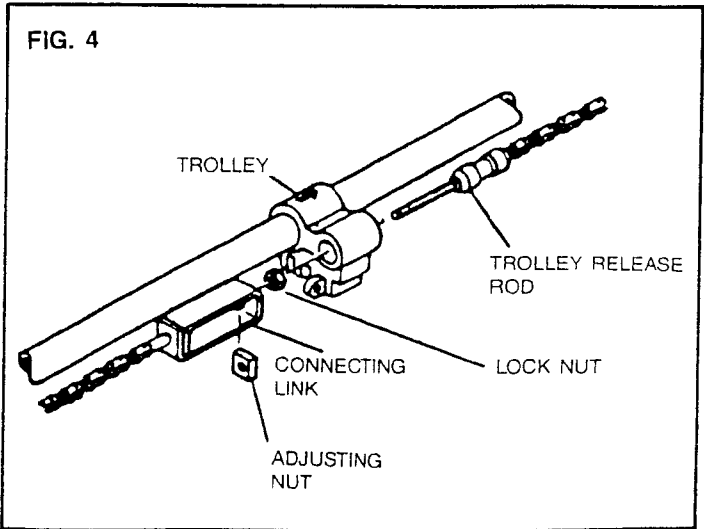
STEP 3

Tension the chain by turning the adjusting nut. Hold the trolley release rod and the connecting link to prevent from turning. (Fig.4)

The tension should be correct when the chain has a sag of between 6mm and 12mm. (Fig.3)

Tighten locknut against connecting link, to lock adjustment into place. (Fig.4)

NOTE: The chain and its supporting equipment may stretch after a period of time. The chain should be retightened after the first three months' use, and thereafter every two years.



MOUNTING WALL BRACKET AND DRIVE UNIT

STEP 4

NOTE: Most of the force applied by the opener while lifting and lowering the door is concentrated at the header bracket. It must be fixed to a beam or rigid support member.

Determine the centre of the door and mark this point on both the head of the opening and the top of the door.

STEP 5

NOTE: Refer to Step 8 to determine make and model of garage door.

Lift the door and find the highest point of travel of the top of the door.

Using a level, transfer this height to the head above the door. (Fig.5)

STEP 6

Place the bottom of the wall bracket at the height indicated in Step 5, and drill two 6mm pilot holes for the coach screws. (Fig.6)

The wall bracket may be mounted higher if required to avoid obstructions or overhead torsion springs.

The powerhead will also have to be elevated in this case.

Attach return pulley assembly to wall bracket with 90mm clevis pin and clip.

STEP 7

Raise the powerhead and support on a step ladder. Raise the door to the open position.

Line the drive tube with the point marked at the top of the door. Exact alignment is essential.

To secure the opener IT IS IMPERATIVE THAT THE POWERHEAD BE BRACED IN THE MANNER SHOWN AT RIGHT. (Fig.7)

FIG. 5

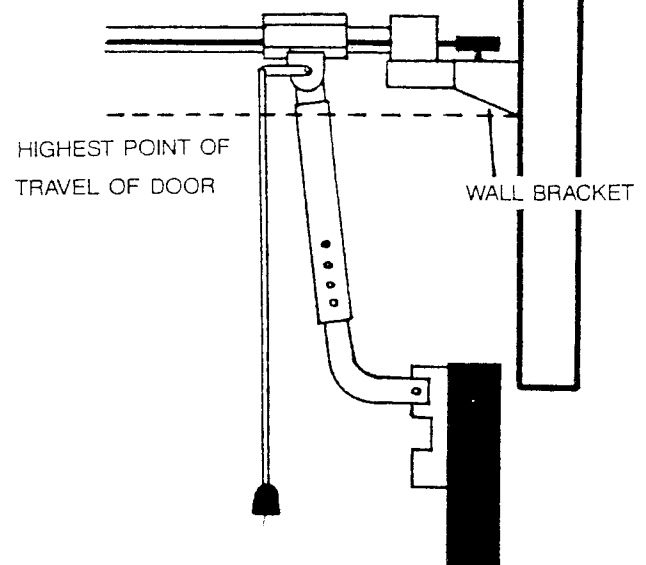


FIG. 6

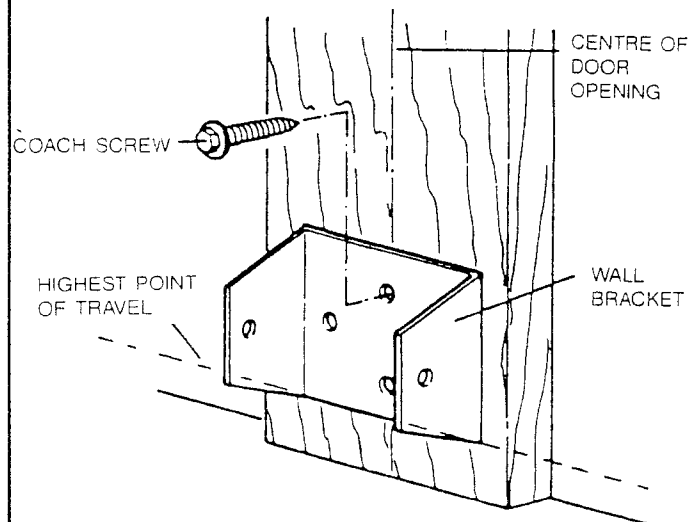
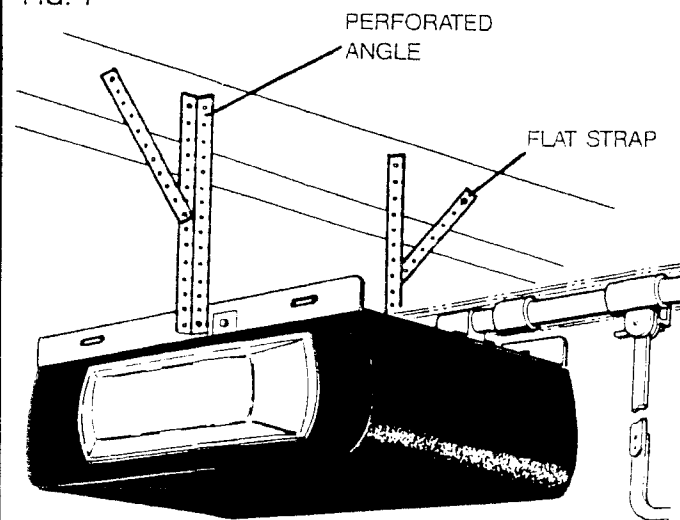
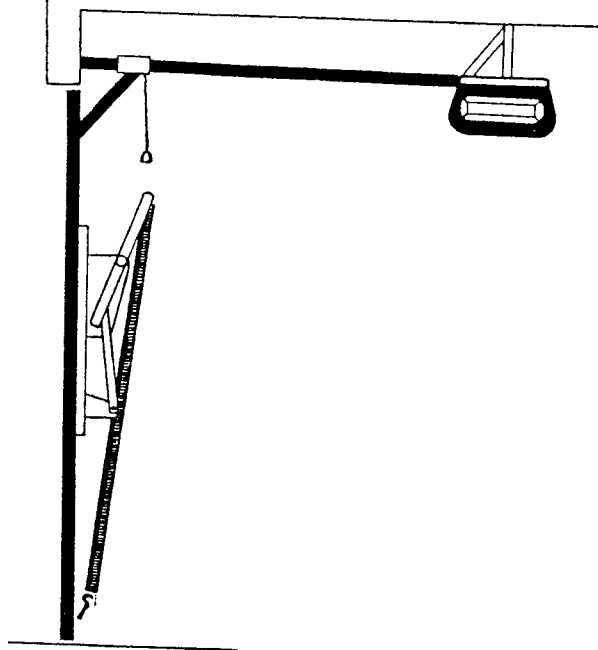


FIG. 7



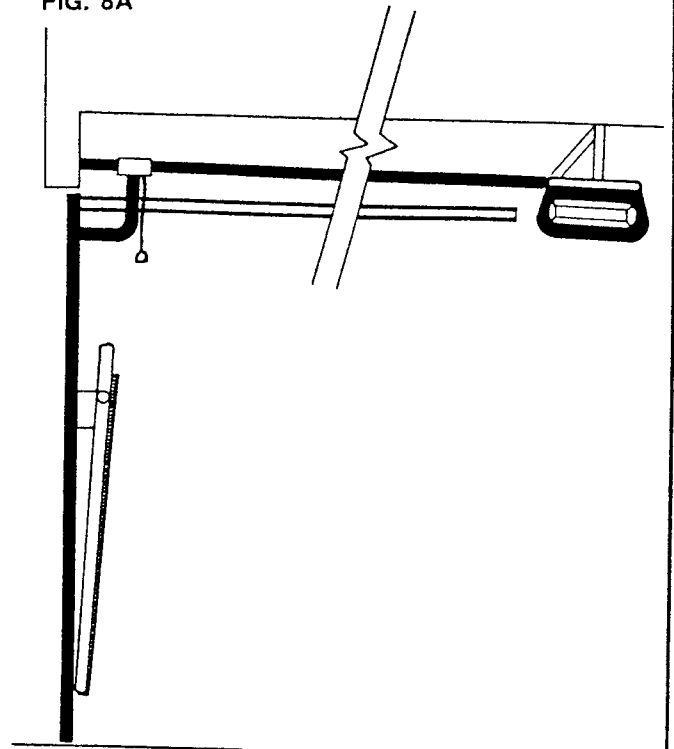
INSTALLATION OF OPENER TO DOOR

FIG. 8



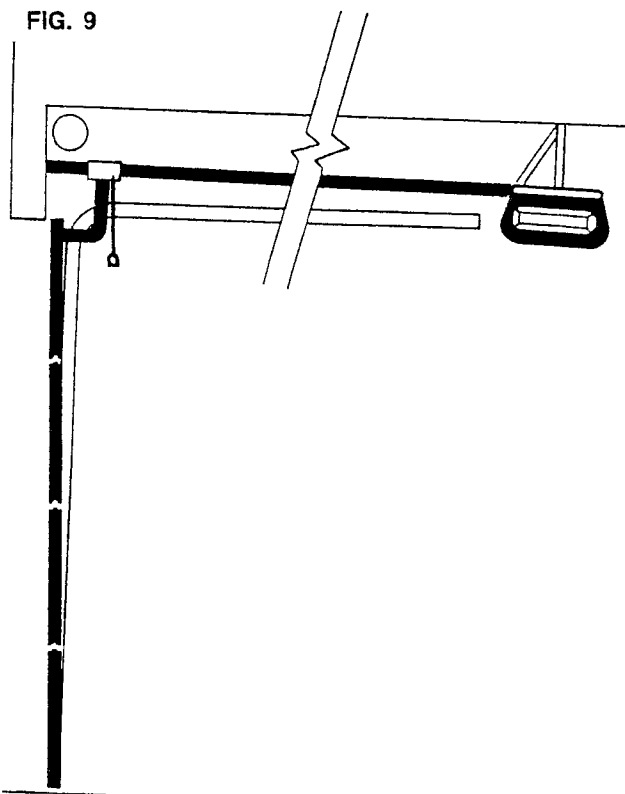
INSTALLATION TO JAMB-TYPE FITTINGS

FIG. 8A



INSTALLATION TO TRACK-TYPE FITTINGS

FIG. 9



INSTALLATION TO SECTIONAL OVERHEAD DOORS

STEP 8

Before starting, determine which type of garage door you have.

EACH OF THE DIAGRAMS DESCRIBE AN IDEAL SITUATION, AND ARE DRAWN TO SCALE.

It is suggested at all times, that installation be carried out by a qualified B & D dealer. This is particularly important in situations of low or no headroom clearance. (Figs.8,8A,9)

SPECIAL NOTE: Installation to Jamb-Type fittings:

- (i) Use straight connector arm. Do not use curved door arm. (Also applicable for installation to track-type fittings.)
- (ii) Shorten drive tube to 1860mm. (Length of track from head of door to front of drive unit chassis will be 1760mm.)
- (iii) Where headroom allows, maximum headroom adjustment (Refer Tilt-A-Dor 150J, 175J, 200J installation instruction sheet).

IMPORTANT

- (iv) Locate the push button at least ONE METRE from the door fittings.

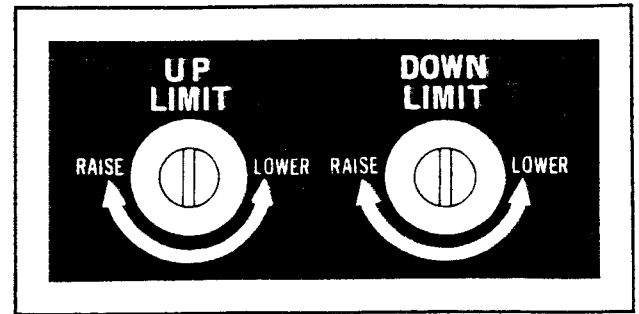
NOTE: Tilt-A-Dor and Panelift doors over 2200mm in height will require an extension kit and a longer tube.

ADJUSTMENT LIMITS

STEP 9

To adjust the door travel limits raise the door manually until the trolley passes over the trolley release rod and engages.

The limit switches determine where the door stops after travelling either up or down. The upper knob adjusts how far the door opens and the lower knob adjusts the closed position.



POWER OFF — REMOVE COVER

STEP 10

Raise the door manually until the trolley passes over the trolley release rod and engages.

The limit adjustments on the chassis screws adjust where the door stops after traveling either up or down. If you have installed the chain assembly 21" from the powerhead as in FIG 7:B and have installed the door arms and door brackets as on page 10 you should only need to make small adjustments in the limits. Now plug the unit into a grounded three prong outlet.

Depress the push button. The door will move toward the closed position stopping at the pre-set down limit. Or approx 5 feet. Measure distance required for door to close completely. Then turn the down limit slotted screw on chassis in counter-clockwise direction 1 full turn for each 2 1/4 inches of distance required. Depress push button again. Door will return to original open position. If the door does not open to desired position make adjustment using up limit slotted screw on chassis. To raise door turn the screw in clockwise direction 1 full turn for every 2 1/4" OF travel required.

Now depress push button again. Door will move to closed position. If door is not to desired closed position make further adjustments by using down limit screw. If door is adjusted too far in down direction it will reverse automatically. Reset down limit by turning down limit screw in clockwise direction.

Continue making adjustments to both the up and down limit screws until desired position of door is reached.

POWER OFF — REPLACE COVER

STEP 11

SAFETY REVERSE SYSTEM

A.

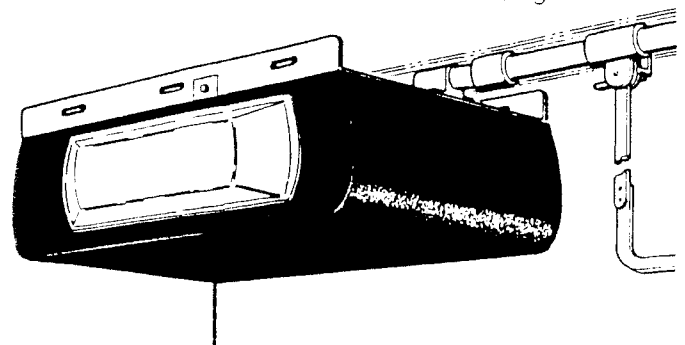
Should the door contact an obstruction on the UPWARD travel, it will stop, and within 30 seconds, the safety reverse system will stop the motor. To return door to the fully closed position, the system must be re-activated by pressing the push button or hand transmitter.

Should the door contact an obstruction on its DOWNWARD travel, it will automatically reverse to the fully open position. The amount of force required to make the door reverse in its downward travel, is adjustable by turning the screw on the side of the operator.

B.

As an additional safety precaution, a FAILSAFE CIRCUIT has been incorporated into the main circuit. If for any reason the reverse system fails on the downward travel, the FAILSAFE CIRCUIT will assume control and within 30 seconds will automatically return the door to the fully open position and stop the drive motor.

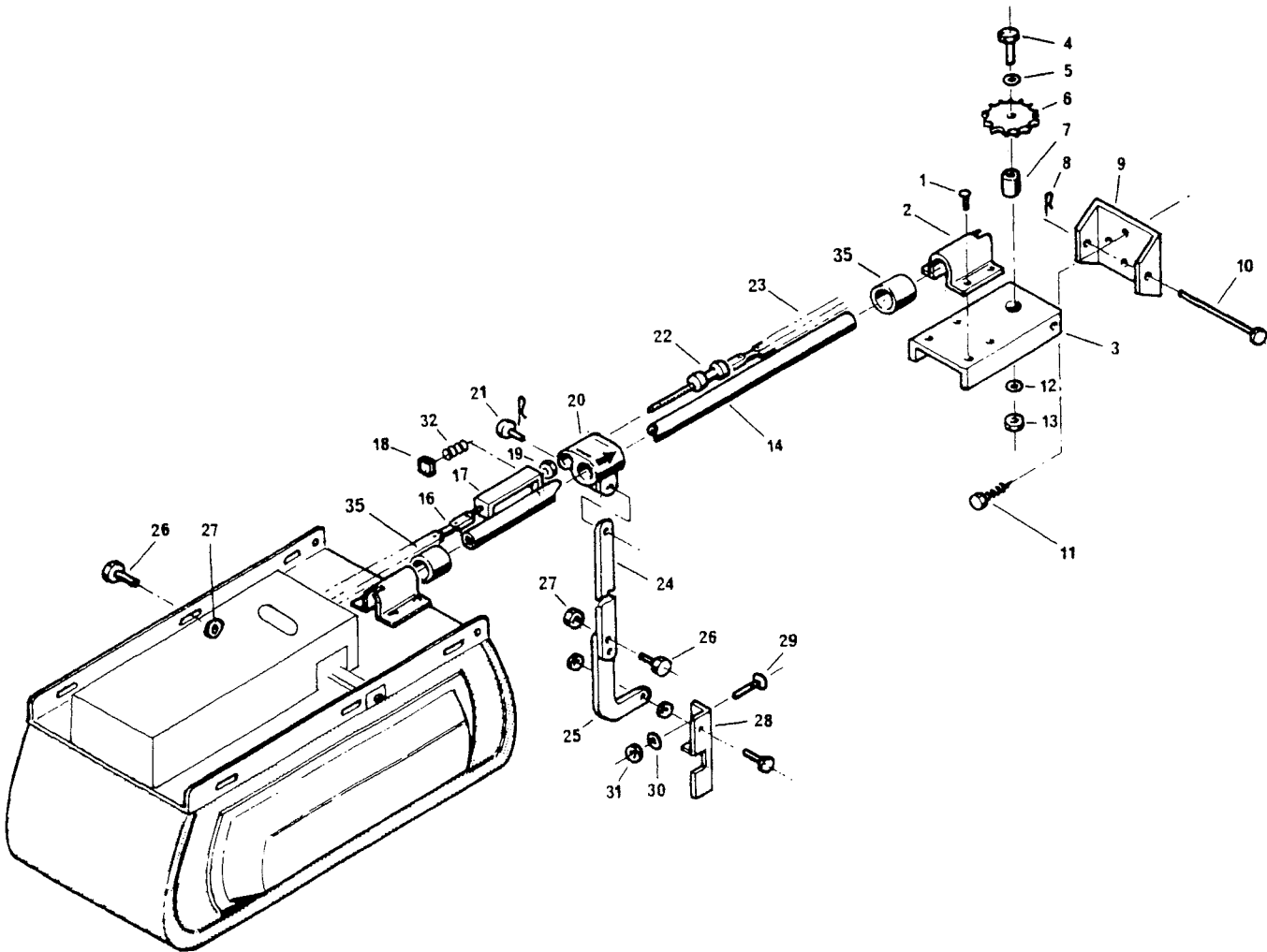
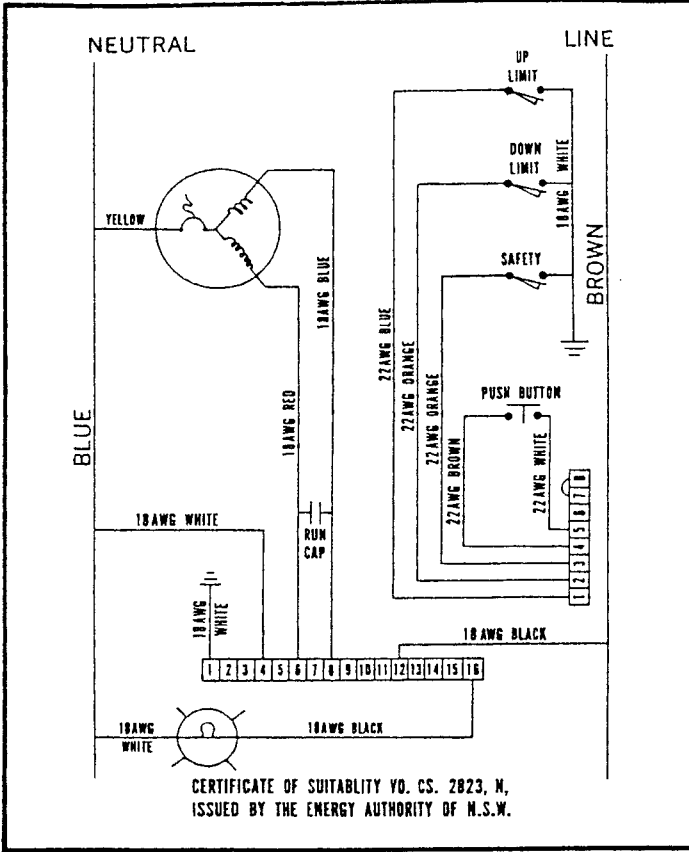
NOTE: Antenna to be vertical and straight.



Check the safety system by manually holding the door back about midway in its downward travel. With only moderate pressure the door should reverse. Turn the adjusting screw counter clockwise to decrease the force until the reversing action is correct. If the safety is set too sensitively, the door may not complete its downward travel. If the door starts down and reverses by itself, turn the adjustment screw clockwise to increase force.

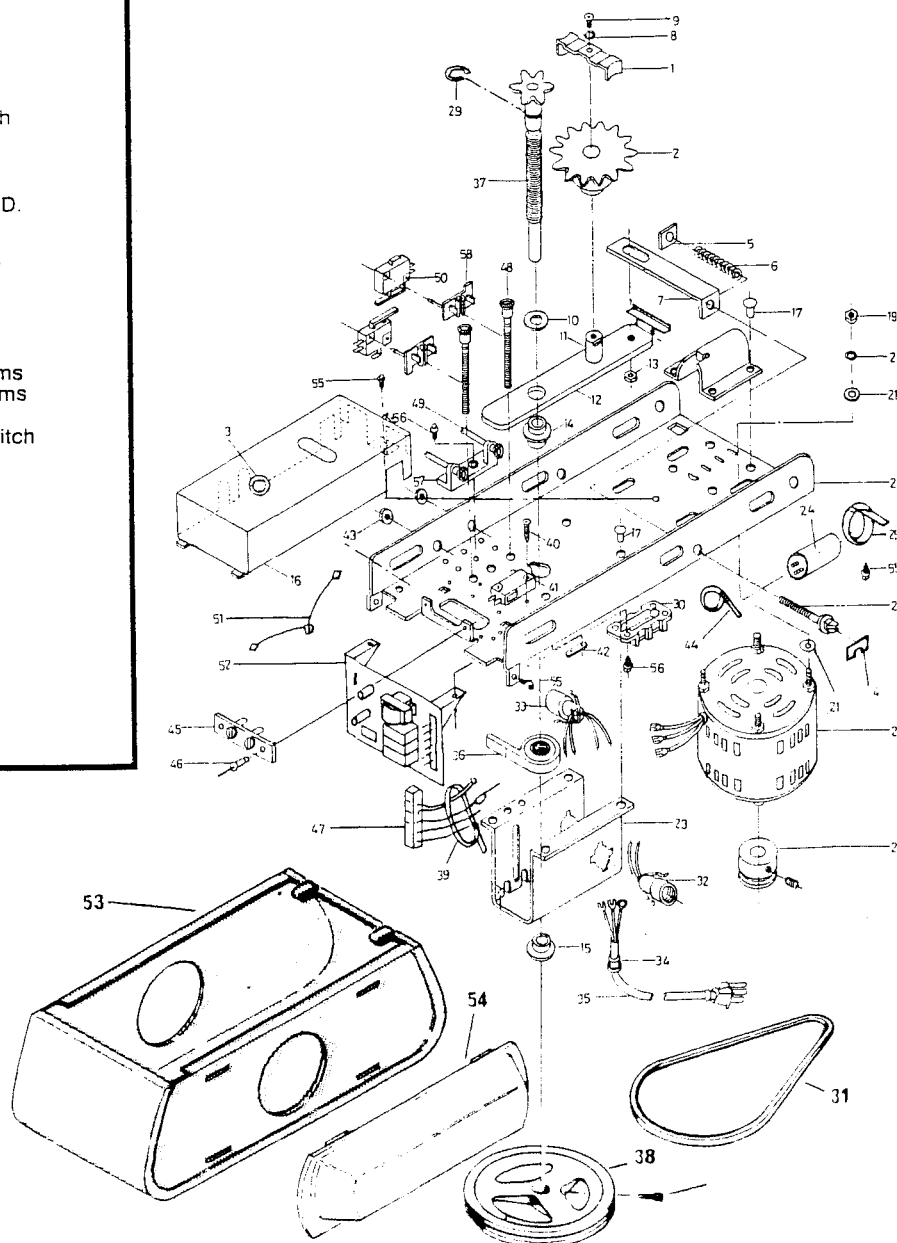
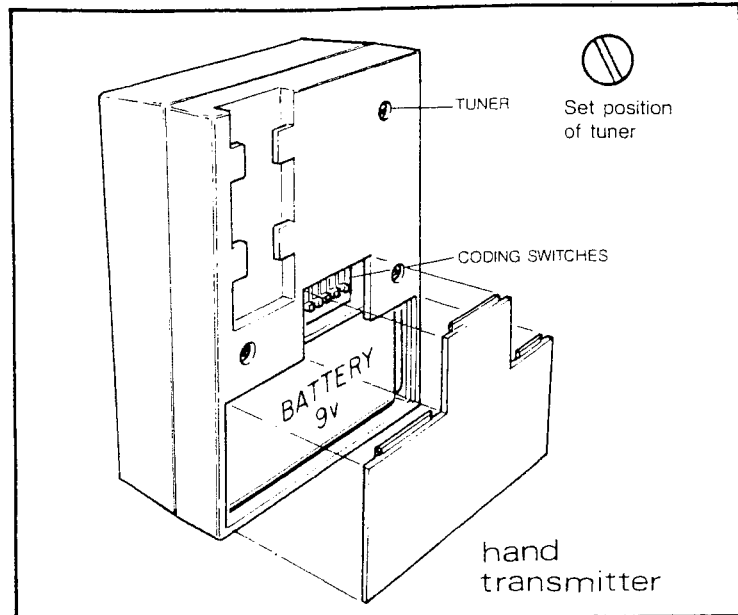
PARTS LIST — DRIVE UNIT ASSEMBLY

ITEM	PART No.	DESCRIPTION
1	8017	Rivet
2	8018	Tube Bracket
3	8100	Channel Return Sprocket
4	8101	Hex Bolt M12x40
5	8102	Flat Washer 120x240x2.6
6	8103	Return Sprocket
7	8104	Sleeve Bushing
8	8105	Hitch Pin
9	8106	Header Bracket
10	8107	Clevis Pin Header Bracket
11	8108	Coach Screw 8mmx16mm
12	8109	Lock Washer M12
13	8110	Hex Nut M12
14	8111	Drive Tube
		Drive Tube 2870mm
16	8112	Rod Chain Connector
17	8113	Chain Connector
18	8114	Square Nut 6mm — 20
19	8115	Hex Nut 6mm — 20
20	8116	Trolley Assembly 
21	8117	Clevis Pin Trolley
22	8118	Trolley Release Rod
23	8119	Chain Assembly
24	8120	Connector Arm
25	8121	Door Arm
26	8122	Hex Head Bolt M8x20
27	8123	Hex Nut M8
28	8124	Door Bracket
29	8125	Carriage Bolt 6mm—20x48mm
30	8126	Lock Washer 6mm
31	8127	Hex 6mm — 20
32	8128	Spring
33	8129	Disengage — Pull Cord
34	8130	Disengage — Pull Knob
35	8131	Safety Spacers



PARTS LIST — POWERHEAD

ITEM	PART No.	DESCRIPTION
1	8001	Chain Guide
2	8002	Forward sprocket
3	8003	Bushing—Rubber
4	8004	Lable For S/S
5	8005	U-Clip Nut 1/4"
6	8006	Plate Trolley Spring
7	8007	Plate
8	8008	Lock Washer
9	8009	Screw
10	8010	Washer
11	8011	Shaft-Guide Sprocket
12	8012	Mtg Bracket-Guide
13	8013	SCREW M8 x 20
14	8014	Bearing — Drive Shaft-Sprocket
15	8015	Bearing — Drive Shaft-Pulley
16	8016	Sprocket Cover
17	8017	Rivet
18	8018	Tube Bracket
19	8019	Hex Nut
20	8020	Lock Washer
21	8021	Washer
22	8022	Chassis
23	8023	Chasis U-Bracket
24	8024	Capacitor
25	8025	Clip-Capacitor
26	8026	Adjusting Screw RD, HD, SLTD.
27	8027	Motor
28	8028	Driving Wheel
29	8029	C-Ring
30	8030	Terminal Block
31	8031	V Belt
32	8032	Lamp Outlet A
33	8033	Lamp Outlet B
34	8034	Strain, Relief Bushing
35	8035	Power Cord
36	8036	Control Lever-Limit Switch
37	8037	Drive Shaft with Gear
38	8038	V Pulley Assembly
39	8039	Lock Cable Tie
40	8040	Screw 40 x 7/8" RD. HD.
41	8041	Safety Switch
42	8042	Switch Nut
43	8043	St Rel Bushing—Rubber
44	8044	Lock Cable Tie
45	8045	Binding Post
46	8046	POP Rivet 3/16"
47	8047	Wiring Assembly
48	8048	Screw Long Plastic Cams
49	8049	Screw Short Plastic Cams
50	8050	Limit Switch
51	8051	Wire Harness—Limit Switch
52	8052	Electronics Board
53	8053	Cover
54	8054	Lamp Domes
55	8055	Screw #8 x 1/4"
56	8056	Screw #8 x 3/8"
57	8057	Adj Screw Bracket
58	8058	Limit Switch Bracket
59	8059	Series Label
60	8060	Circuit Diagram
61	8061	Installation Instructions
62	8062	Push Button and Cord
63	8063	Transmitter
64	8064	Antenna
65	8065	Power Head Complete



TROUBLESHOOTING

Motor hums but does not start

1. Defective capacitor (capacitor must be replaced).
2. Check manual operation of door.

Relay clicks but motor does not start

Motor has overheated; if the unit has been operated repeatedly, its own thermal motor protector may shut it off. Wait 15-20 minutes and try the push button or transmitter again.

Opener completely dead

1. No line voltage to opener (check to see if there is power at the outlet).
2. Defective board (Replace).
3. Open circuit. (Printed circuit).
4. Defective capacitor (Replace).

Light does not work

1. Bulb burned out. (Replace).
2. Defective printed circuit board. (Replace).

Door reverses on down travel

1. Safety set too light. (Readjust)
2. Garage door springs need adjustment.
3. Door is obstructed. (Manually operate door to locate obstructions)

4. Door closes too hard against door opening or jambs. (Adjust down limit)

Door stops on way up

1. Garage door springs need adjustment. (Door may be too heavy)
2. Door binding in track. (Manually operate door to locate binding)

Opener responds to push button but not hand transmitter

1. Check for defective hand transmitter battery. (Check light on transmitter)
2. Relocate hand transmitter in car.
3. Press hand transmitter within 3 metres of door. If this works, check the antenna.
4. The range of the signal can be adjusted with the screw, located at the back of the hand transmitter casing. Care must be taken as the tuning is very sensitive. The screwdriver must be removed from the slot while checking the range.

Opener responds to hand transmitter but not push button

1. Check push button wire for break or open circuit.

STANDARD ACCESSORIES

FAILSAFE CIRCUIT

As an additional safety precaution, a FAILSAFE CIRCUIT has been incorporated into the main circuit. If for any reason the safety reverse system fails, the FAILSAFE CIRCUIT will assume control and within 30 seconds, automatically reverse the door.

COURTESY LIGHTS

Courtesy lights will be activated whenever the door is operated, and will remain alight for approximately 4½ minutes before automatically switching off.

OPTIONAL ACCESSORIES

Domino lock, Key switch, Two position hand transmitter, Emergency key release.

Drive Tube Extension kit comprises 305mm-380mm tube, 610mm-760mm chain and master link. (Lifts door height up to 2500mm when applied.)

IMPORTANT

Always locate the push button at least ONE METRE from the door fittings.

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