

B 94439

Cars Bought in 1957-1958

# Fairmont

S2-H-1  
Motor Car

## SERVICE INSTRUCTIONS AND PARTS LISTS

### IMPORTANT

Before placing a motor car in service read the starting and operating instructions in this book.

Bulletins enclosed in these covers sometimes apply to more than one series of the same class of car, therefore be sure to consult the sections which refer to the car and engine being used.

When this book is received, complete the motor car record inside this front cover. Mention factory engine and car serial numbers when ordering parts or writing about the car.

## FAIRMONT RAILWAY MOTORS, INC.

FAIRMONT, MINNESOTA, U. S. A.

### DISTRICT OFFICES

Chicago New York Washington, D. C. St. Louis Fairmont

### RESIDENT REPRESENTATIVES

Texas Virginia California

IN CANADA: Fairmont Railway Motors, Ltd., Toronto, Ont.

## INSTRUCTIONS FOR ORDERING PARTS

When this book is received complete the following motor car record from the FAIRMONT name plates on the car, and on the engine water jacket. The engine number is also stamped on top of the crankcase. Always mention these factory serial numbers when writing about the car or ordering parts. Don't give us railroad numbers.

Factory Car No. .... Class..... Series.....  
Group..... Special.....  
Factory Engine No. .... Type..... H.P.....  
Group..... Special.....

**TO INSURE PROMPT AND CORRECT SHIPMENT**  
of parts on orders, be sure to give us:

- (1) Quantity of each part wanted
- (2) Symbol number of part as shown in this book
- (3) Description of part as shown in this book
- (4) Factory serial numbers recorded above
- (5) Car gauge if other than 56 $\frac{1}{2}$ " standard
- (6) State whether shipment is to be by mail, express, or freight

If in doubt as to a part wanted, send full description or a sketch, or send old part with order.

All parts are shipped f.o.b. factory, transportation charges to be paid by customer.

## SERVICE INSTRUCTIONS AND PARTS LIST

*Metropolitan Bank Bldg. 504  
Washington Fairmont D.C.*

### S2 SERIES H

#### STANDARD SECTION CARS



This bulletin contains complete instructions for the operation and care of standard S2 series H group 1 and later section cars with battery ignition and direct belt drive as illustrated above, and lists all spare parts for them. Cars of this designation have hinged seat tops, steel angle seat supports, and battery and tool boxes under the seat.

Before starting engine or car read pages 5 to 9.

Before ordering spare parts read page 20.

The table of contents on pages 2 and 3 permits of quickly locating any information desired. Use it and save time.

If car is magneto equipped, see bulletin 559 for starting instructions, and also for magneto and magneto drive parts.

#### Service Division

### FAIRMONT RAILWAY MOTORS, Inc.

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DAH

## TO OPERATORS OF FAIRMONT S2 SERIES H MOTOR CARS

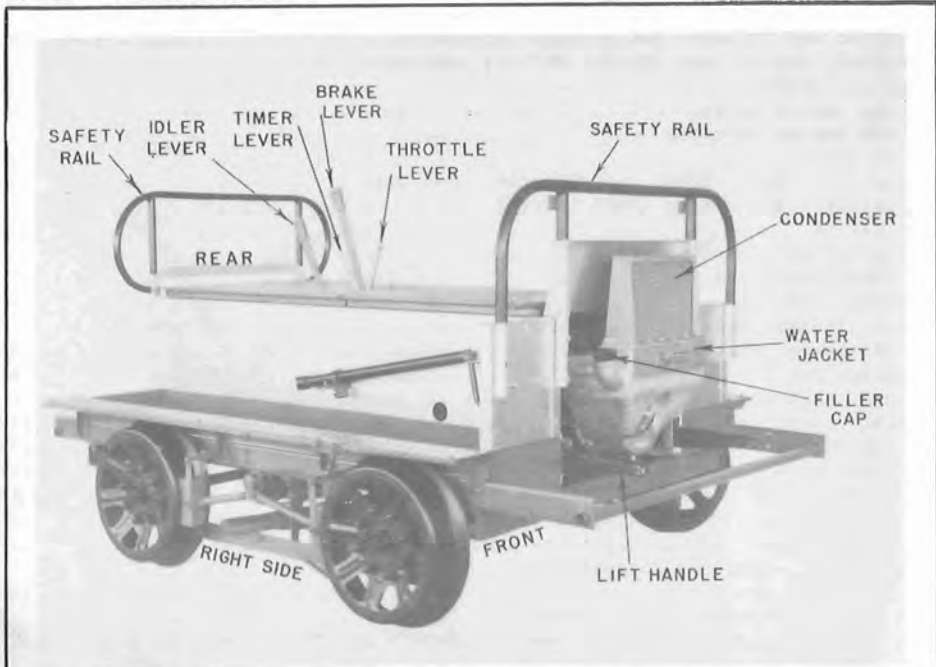
This bulletin contains instructions and spare parts for standard S2 series H group 1 and later motor cars having battery ignition and direct belt drive. Accessories, their main parts, and some maintenance tools are found on pages 46 through 50. Items used on cars having figures in the space on the name plate marked "Special" and different from those used on standard cars, are listed under that special car designation, see page 51.

Upon receipt of this book promptly fill in the car and engine record on page 20, and always mention these factory numbers when writing about the car or ordering parts. Take good care of this book so it is available for reference when making adjustments and repairs, or ordering spare parts.

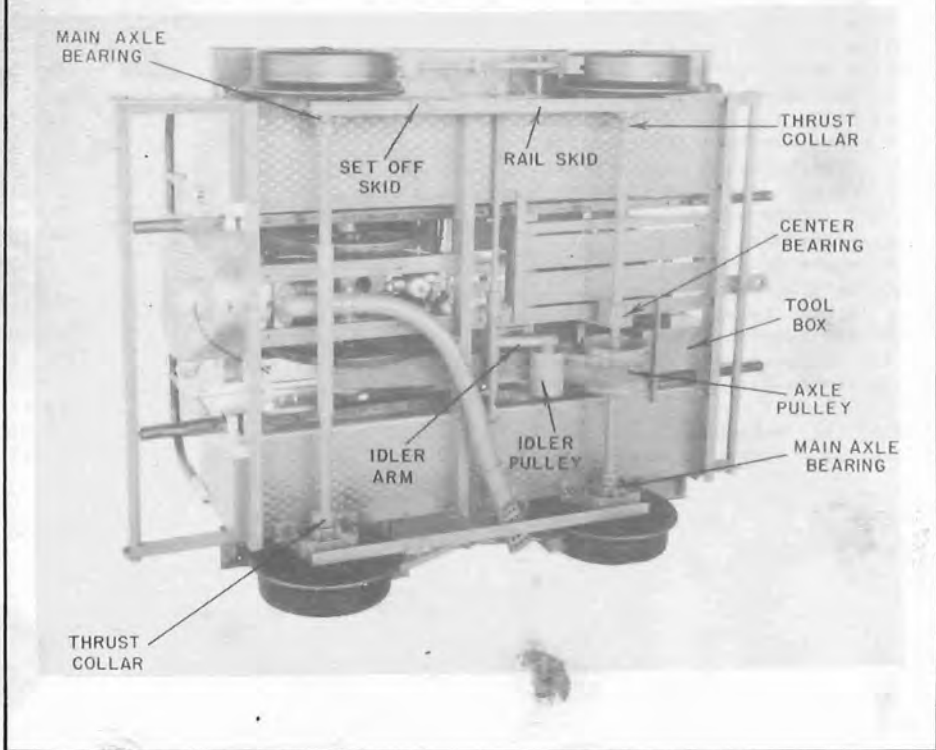
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These illustrations show a general view, and the underside of a standard S2 series H car, with the more important parts pointed out. Reference is frequently made to these parts throughout the bulletin, and the user should thoroughly familiarize himself with them and their functions before placing the car in service or making adjustment and repairs.



**PREPARING CAR FOR SERVICE**

Inspect everything for possible damage in transit. If in bad condition make a full report to supervising officials at once. Be sure switch button on car seat is down, then attach high tension cable to spark plug and connect the loosened wire in battery box. If not sure where to attach this wire see diagram on page 14. Examine all bolts, nuts, and electrical connections for tightness. See that all cotter pins are spread open.

Fill the grease gun with a grease which will not congeal at 40° below zero and will not flow at temperatures of 275°. All major oil companies can furnish such lubricant. Then, lubricate the four main axle bearings, drive axle center bearing, idler pulley, idler arm pivot, differential axle and brake shaft bearings.

Remove filler cap from water jacket, open water level cock on right side, and pour in clean water up to this level. About thirteen quarts are required. A small carton of rust preventative is included in the tool box with each new unit and it is recommended this be regularly used.

Remove gas tank filler cap at rear of car and fill tank with oil and gasoline mixed according to instructions on this page, then replace filler cap. When filling tank, strain fuel through a fine mesh screen funnel or clean cloth free from lint. Open shutoff valve under gas tank. Open drain cock under carburetor, see that gasoline flows, then close it tight.

The spark and throttle levers stand vertically. The right hand one is the throttle, the left one the timer control. The carburetor control knob located at the left front corner of control panel turns to open or close the needle valve and pulls up to choke carburetor. S2 series H cars are equipped with a push-pull ignition switch located at front of control panel. The switch is in the "on" position when the switch button is pulled up from the control panel and in the "off" position when pushed down.

Finally set car on the track and operate the controls to become familiar with them. Release brake and idler levers, and see that car rolls freely. Be sure wheels and axles run true, and brake shoes do not drag.

**MIXING OIL AND GASOLINE**

S.A.E. 30 gas engine or automobile cylinder oil will give good results all year 'round in nearly any climate. We do not recommend the use of an oil heavier than S.A.E. 40. Measure 3/4 pint of oil for each gallon of gasoline (1 part oil and 11 parts gasoline by measure) and stir the mixture thoroughly. Best results are obtained by using gasoline with a minimum lead content. Don't use poor oil or reduce the proportions recommended. Never pour oil and gasoline in the tank separately -- they will not mix properly.

When "breaking in" new engines, add 1/4 pint more oil per gallon to the mixture during the first 500 miles of operation, so closely fitted parts wear in smoothly. If gasoline and oil are supplied mixed, add an extra 1/4 pint of oil to each gallon.

**OIL RECOMMENDATIONS**

Nondetergent, straight mineral oils properly refined from either asphalt or paraffin base crudes furnish the best lubrication. They should not contain acids, alkalies, or impurities in injurious quantities. Detergent oils commonly sold for automotive use may cause excessive deposits of foreign matter on spark plugs and in combustion chamber and ports.

In general the lower viscosity oils give cleaner results, easier starting, and provide a higher factor of safety. Heavy oils have high viscosities and they form excessive carbon and do not flow freely in cold weather. Mixing heavy oil in the gasoline in smaller proportions than recommended reduces the lubricating value of the mixture, and lower engine efficiency and higher maintenance costs will result.

S. A. E. 30 oils of approximately the following viscosity characteristics are most satisfactory for year 'round use:

At 130° F. 185 to 255. At 210° F. 50 to 63.

Oils up to S. A. E. 40 as follows, may be used if S. A. E. 30 is not obtainable:

At 130° F. 255 to 450. At 210° F. 62 to 75.

All refiners and oil companies can supply oils conforming to these specifications.

#### STARTING BATTERY IGNITION ENGINES

*These instructions apply to direct belt drive cars.* The engine will run either forward or backward, but the timer control lever must be set differently for starting and operating in each direction, see instruction plate on car seat.

#### STARTING ENGINE FORWARD

Forward is with top of flywheels running clockwise or toward water jacket. Release idler lever, and set and lock the brake. Slip starting crank through steady bearing on right front wheel guard and over end of crankshaft. Apply oil at these points.

#### TO TEST IGNITION

Retard the spark by moving timer control lever *toward the rear* of car. Pull up switch button and slowly crank engine forward. The coil should buzz only while the timer contact points close. If it buzzes at any other time or does not buzz at all, there may be a short circuit or improperly connected wire, and a check should be made by following instructions on page 14. Finally open switch (push down).

#### TO PRIME ENGINE

See that shutoff valve at gas tank is open and fuel flows to carburetor. Partly open the throttle by moving lever toward rear of car. Open carburetor needle valve 1-1/2 to 2 turns from the closed position by turning control knob to the left.

Be sure ignition switch is open (down), then spin the engine several times with the crank while pulling up control knob to choke carburetor. This fills the cylinder and crankcase with fresh gas. In cold weather it can also be primed by injecting some of the fuel mixture through the priming cup on throttle valve cover. Choking the carburetor or priming is usually only necessary when starting a new or cold engine.

#### CRANKING ENGINE

Next release choke control knob, be sure spark is retarded, close switch (pull up), and firmly holding the starting crank engaged, quickly pull it upward in a clockwise direction. If engine does not start the first time, continue these upward pulls on the crank until it does, priming again if necessary. When the engine starts, remove the starting crank. *Never spin the engine with switch on -- injury might result.*

#### IDLING ENGINE

As soon as engine starts, move timer control lever *toward the front* of the car to advance the spark, and slightly close the throttle so engine runs slowly until it warms up, then set carburetor needle valve to the best running position, about 1 to 1-1/4 turns open for average conditions. Never "race" a cold engine to warm it up, nor run it at high speed when the car is standing still.



**STARTING  
ENGINE  
BACKWARD**

Backward is with top of flywheels running anti-clockwise or away from water jacket. Retard the spark by moving timer lever toward the front of car.

Follow the preceding instructions for testing ignition, setting throttle, priming, and starting, but crank the engine anti-clockwise or backward. As soon as it starts, move the timer lever toward the rear of the car to advance the spark, and after warming up set needle valve to proper running position.

**TO STOP  
ENGINE**

Open (push down) the switch. Just before engine stops turning open throttle to fill the engine with fresh gas and make starting easier.

**REVERSING  
BATTERY  
IGNITION  
ENGINES**

To reverse a battery engine when running, without using starting crank, the belt must be free. Open (push down) ignition switch and leave timer advanced. Open throttle, and just before flywheels stop turning, close (pull up) switch and engine will kick back and run in the opposite direction. Then reset timer lever.

**HANDLING  
THE CAR**

Pull out extension lift handles when setting car on and off the track. Be careful not to strike axle pulley on rails. Use care in setting off at crossings, switches, and frogs so axles are not sprung by pinching wheels in flangeways.

**STARTING  
THE CAR**

Always drive with the engine ahead in normal service. After starting and warming up the engine, seat passengers, operator facing ahead, and release brake. Gradually open the throttle and at the same time tighten the belt by slowly pushing idler lever ahead. This allows the belt to slip and act as a clutch.

**DRIVING  
THE CAR**

After car gets under way, tighten idler enough to prevent belt slippage, and latch the lever. Use throttle to regulate speed, and for average conditions the spark should be well advanced.

Always drive a new car slowly and carefully until thoroughly familiar with the controls. A speed of 15 to 20 miles per hour for the first 500 miles is recommended.

If the car loses speed or the engine knocks on hard pulls with open throttle, partially retard the spark, and slip the belt a little if necessary. When coasting down light grades the belt can be released and throttle closed, thereby saving fuel. In descending heavy grades the engine can be used as a brake by leaving belt tight, closing throttle, and cutting off ignition. When coasting long distances, maintain slight throttle opening to furnish lubrication for internal engine parts.

**STOPPING  
THE CAR**

First close the throttle, then retard the spark part way. Next release idler lever to slacken belt, and apply the brake. Shut off ignition to stop engine if car is to be removed from track.

**REVERSING  
THE CAR**

To reverse a battery ignition car without cranking, release belt and bring car to a full stop, allowing the engine to run slowly. Then reverse the engine as explained previously, after which the car can be driven in the other direction.

**LUBRICATION**

Always mix 3/4 pint of oil with each gallon of gasoline. This mixture lubricates all internal moving parts of the engine.

Once a week force some grease into the fittings on the main axle bearings and on the axle center bearing. Grease the differential axle each day or two.

Once a month inject about an ounce of grease into the grease fitting on idler shaft. Occasionally grease the idler arm pivot and brake shaft bearings.

**GENERAL  
SUGGESTIONS--  
SAFETY FIRST**

Inspect the car before starting out each day, and make sure it is in good operating condition. Once a week clean the entire car thoroughly, examining gasoline joints, electrical connections, bolts, screws, etc., and tighten all loose parts.

When making inspection see that: \*

- (1) Wheel tires are not worn dangerously thin.
- (2) Wheels and axles run true.
- (3) Axle end nuts are secured by cotters.
- (4) Wheel hub bolts are tight.
- (5) All wheels are tight on axles.
- (6) All pulleys are aligned and belt runs true.
- (7) Brake is in first class working condition.

Maximum capacity of car is 1800 lbs. at ordinary speeds. Load baggage and tools carefully to prevent their working into moving parts or falling off the car.

Drive slowly with car under full control where there is not a clear view ahead, over road crossings, through gangs of workmen, through railroad yards, and over frogs and switches. Don't drive during rain or snow storms or foggy weather unless necessary, and then only with a lineup and extra precaution. When following other motor cars or trains remain 500 feet or more behind. Adhere strictly to local railroad motor car rules.

**BELT IDLER**

For ordinary driving, when the idler lever is latched in the first notch in the guide plate, the belt should be just tight enough to propel the car without slipping. The coiled spring under the nut on the threaded end of idler control rod, cushions the drive and protects all parts from excessive strains. To increase belt tension screw down the nut -- to reduce tension back it off. Adjust tension so the coiled spring does not compress solidly together when idler is in operating position.

The idler pulley runs on two single row taper roller bearings packed in lubricant. Once a month inject about an ounce of grease through fitting in cover. Clean and repack bearings yearly.

To disassemble pulley, first remove it from the idler arm by taking out clamp screw. Remove cover, and lightly drive on opposite end of shaft, forcing out one outer race and both inner races. Inner races can be pressed or driven off the shaft. Reassemble in reverse order. To adjust idler bearings, remove or add shims under pulley cover. There should be .003" to .005" end play in bearings when cover is tight.

**ENDLESS CORD  
BELT DRIVE**

Always leave the belt slack when car is not in use. The endless cord belt is "endless" and it must not be cut or laced. Properly cared for it will give many thousands of miles service. Never use belt dressing on the belt. If the belt glazes over and slippage cannot be overcome by increasing idler tension, scrub the inner belt face with a rag saturated in gasoline from the fuel tank. Also clean pulley faces, then dust a little tire talc or powdered soapstone on belt and pulleys.

**TO CHANGE  
BELTS**

Release idler and remove engine pulley. Lift the rear end of car about a foot and securely block up under the frame. Slip the belt off the axle pulley. Remove right rear brake shoes,

unbolt right rear axle bearing, center bearing, and right hand rail skid. By lightly prying on the axle there will be sufficient clearance between axle bearing and sill to slip out old belt. Then install the new belt, being careful not to damage it on sharp corners. Reassemble in reverse order and tighten center bearing last. Adjust idler if necessary.

#### PULLEYS

The engine pulley is held on the flywheel by three cap screws which should be kept tight. Be sure lock washers are used under the heads, and that screw ends do not project through the pulley lugs. The axle pulley is clamped in place and driven by a key. Keep the clamp bolts tight. In handling car over the rails be careful not to damage the axle pulley. Keep pulleys in line so belt runs true and does not rub or climb the flanges.

#### AXLES AND BEARINGS

The axles run on a double row taper roller bearing at each end, and a steady bearing supports the drive axle next to the pulley. When axle bearings require adjustment, it is best to remove them from the car. Unbolt and remove wheel, axle, and bearing assemblies. Take off wheels, then jar the bearing assemblies off the axles. If but one bearing requires adjustment, block up end of car and take off brake shoe and wheel adjacent to the bearing, then unbolt and remove bearing.

Take bearings apart and clean with gasoline if the lubricant is dirty or old, then repack with grease. To remove bearings from axle casing, take off the cover, and with a heavy punch drive against the inner race from the opposite end of the casing. If necessary, remove remaining outer race by jarring the casing against a heavy wood block. Reassemble in reverse order. Sufficient shims should be used under the cover to obtain .003" to .005" bearing end play with cover bolted tight.

When replacing drive axle on car be sure all three bearings are in line. If necessary shim under the low one. A slightly sprung axle can usually be straightened cold, but one badly bent should be replaced. Never heat axles when straightening.

Two thrust collars on each axle take up end play. To adjust a thrust collar, loosen set screw and clamp bolt, then tap collar snugly against axle bearing. When correctly set, tighten clamp bolt first, then set screw, and finally apply lock wire.

#### DIFFERENTIAL AXLE

S2 series H cars are equipped with the FAIRMONT differential axle. It accommodates two tight insulated wheels which turn independently of each other with their respective halves of the axle.

#### WHEELS

Standard S2 series H cars use 16" x 4" x 4-1/2" demountable steel wheels, and are equipped with a differential axle and four insulated wheels. Insulated wheels are mounted on the tapered axle ends with fibre sleeves in the hubs and fibre washers next to the outer face to provide electrical insulation. Each group is drawn tight by the axle end nut and a steel washer.

Each wheel tire is tightly held on the hub by eight heat treated bolts. Removing these bolts and swinging the brake shoe clear permits of quickly exchanging a tire without taking the

complete wheel off the axle. Insulated 16" demountable wheels are easily removed from axles by using M19509 demountable wheel puller, or M8706 shock wheel puller.

Before applying insulation smooth all burrs in the wheel hub and wipe clean. Then carefully drive the insulating bushing in until flush with outer hub face; and tighten wheel on the axle with end nut and steel washer, being sure the fiber washer is next to outer hub face. If wheels come too close together (under gauge), tough paper can be wrapped around the axle taper; if too far apart (over gauge), slightly ream the bushing with M7667 taper reamer. Be sure insulated wheels are tight on the taper and all wheels run true.

#### WHEEL ALIGNMENT

**NOTE** -- Sometimes a small difference in drive wheel circumferences causes a car to run to one side even though perfectly aligned. Again, another car will operate satisfactorily with drive wheels showing more variation. Track conditions, direction of wind, car loading, and windshield have some effect on a car, and it may tend to run to one side even when in alignment.

Careful observance of these instructions insures a safe running car. This diagram represents the running gear of any motor car, but the instructions apply to S2 series H cars with FAIRMONT 16" demountable wheels.

(1) Replace bent or sprung frame members and check frame for squareness. Measurements "G" across corners should be the same if frame is square. Tighten all frame bolts.

(2) Carefully block up under the car frame so all wheels turn freely and frame is level.

(3) Examine wheels and replace tires with badly worn flanges.

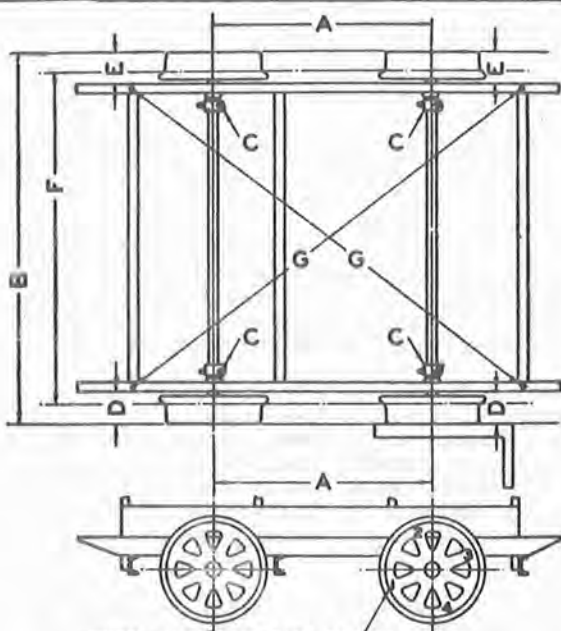
(4) Drive wheel tires must be approximately the same size. Measure them with a steel tape around the tread, being careful to keep it equidistant from the flanges at all points.

(5) (a) Rotate wheel and axle assembly, and hold a piece of chalk steady so it just touches outer face of each wheel. If wheel and axle run true chalk will mark evenly around wheel -- if wheel is sprung or axle is bent chalk will mark the high spot on wheel. Wheels or axles badly out of true usually must be replaced, though axles can sometimes be straightened. A maximum tolerance of 1/32" out of true is recommended on wheel tread, and up to 1/16" out of true on wheel face or flange.

(b) Another method of check is with a straight edge or two-foot carpenter's square across outer wheel faces (see diagram). Mark each wheel face in quarters and measure from the square to the side sill at each quarter turn of the wheel. The measurements should be the same for each wheel, if the wheel and axle run true.

(6) Axle center distance "A" should be the same on both sides of car. Axle bearing bolts can be loosened to permit shifting the wheel and axle assemblies a trifle if necessary.

(7) Cars have the wheels assembled on the axles with a tolerance of 1/8" to 1/4" under standard 56 $\frac{1}{2}$ " gauge. This enables them to operate on under gauge track or canted rail without



WHEEL MARKED AT EACH QUARTER  
FOR TRUE RUNNING TEST (5) b

change. The measurement over outside faces of wheels at "B" is 62-3/4" when S2 series H wheels are 3/16" under standard 56 1/2" gauge. It is preferable to have both axle assemblies drawn to the same gauge when aligning wheels.

(8) New insulating sleeves are sometimes necessary to bring wheels to gauge. Fit them carefully so wheels run true.

(9) With frame approximately centered between the four wheels, the outside faces of left wheels should be in line and parallel with axle bearing sill. Check with a straight edge, tight cord, or carpenter's square, being sure distances "E" are both the same. If necessary loosen and shift thrust collars "C".

(10) Next check right side of car where distances "D" should also be equal and approximately the same as "E".

(11) Carefully set all thrust collars "C" against bearings. First tighten clamp bolts, then set screws and lock wires.

(12) After thrust collars are set, make another check of wheels to be sure alignment has not been disturbed.

## BRAKE

To bring the car to a quick stop, apply the brake with firm steady pressure, yet allowing the wheels to revolve. Go over the brake when weekly car inspection is made, and tighten bolts and adjust shoes if necessary. Be sure cotter pins are spread.

To adjust brake, disconnect adjustable toggles on both sides of car, unscrew the eyebolt or yoke on each toggle 2 or 3 turns, then reconnect parts. Try the brake and if necessary make further adjustment until all four shoes take hold equally. Be sure the lever can be latched in the first notch in the guide. Install replacement liners when old ones wear thin. Be sure liners and bolts holding them do not touch other metal brake parts as electric signals might be operated.

**COOLING  
SYSTEM**

Use clean soft water in cooling system if available. Keep water up to level of water level cock. Capacity is approximately thirteen quarts. It is recommended that the rust preventative furnished be regularly used, *except do not use with a permanent anti-freeze*. In service, steam rises to the condenser where it is condensed to water which drains back.

A motor car operated in severe cold weather may cool too much, or the condenser may fill with frost, causing water to be forced out thru the overflow. To insure normal operation, partially or entirely cover the front of the condenser with cardboard or canvas. Cars can stand in freezing weather without harm to the jacket, providing water is not carried above the proper level. If cooling system contents freeze solid, be sure engine is thoroughly warmed up before driving car.

Many operators use anti-freeze mixtures during the winter months. Automobile anti-freeze mixtures which contain mineral salts should not be used. Mixtures of alcohol and water give fair satisfaction in severe weather, providing the condenser is not covered. Equal parts of water and "Zerex", or "Prestone" make a satisfactory anti-freeze, providing the condenser is protected to prevent frost forming inside. Always use water to replenish any loss by evaporation.

After long service, lime and scale deposits from the water may cause overheating. These can be scraped off the cylinder walls and head after removing water jacket. The water jacket is held on the cylinder block by five studs with nuts and lockwashers, and a gasket prevents leakage. Water resistant packing is used around the cylinder head barrel, and tightening the packing washer nuts prevents leakage at this point.

**FUEL  
SYSTEM**

Inspect the fuel system regularly and see that the tank is securely held by the tank straps. At least once a year remove the tank from the car and thoroughly flush it out to remove sediment, water, and lint. The F3613 gas tank cap has an air vent to allow free flow of fuel to the carburetor. Never use F5115 condenser cap on the gas tank as it has no vent. Loops and bends in the fuel pipe sometimes cause "air locks" which prevent the flow of gasoline. Blowing in the tank will start the flow if fuel pipe is not clogged.

The carburetor strainer bowl should be taken off and cleaned at least once a month, oftener in winter. Be sure gaskets are in good condition when replacing bowl. This also applies to the strainer located below the fuel tank. Don't use heavy wrenches on fuel pipe couplings, float bowl, or strainer bowl.

**CAR FRAME  
AND HOUSING**

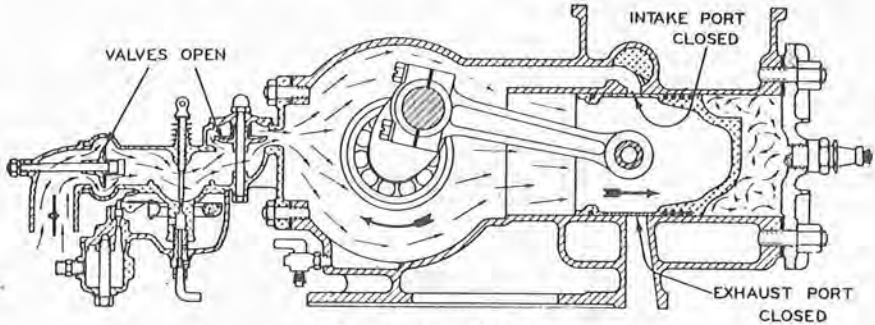
Keep all frame bolts tight. In case frame members become damaged, straighten them; or if badly out of shape, replace. Raising the hinged seat top permits inspections and adjustments to be quickly and easily made.

**ENGINE  
MOUNTING**

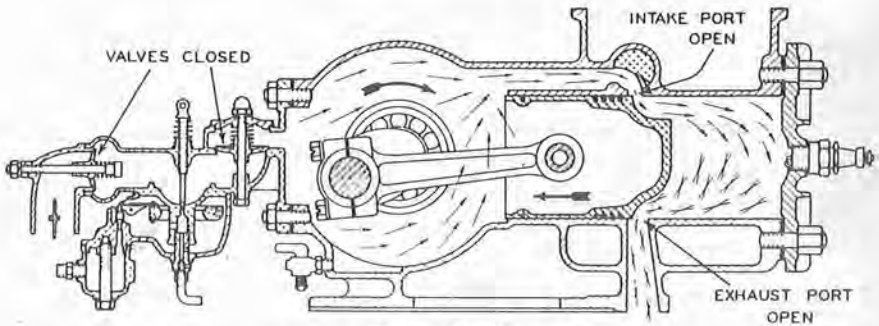
Engines used in S2 series H cars are designated as type RQ-D. They are secured to the engine sills by alloy steel S. A. E. bolts with nuts and lock washers.

## HOW ENGINE OPERATES

The upper illustration shows the piston passing over the exhaust and intake ports, as it moves toward the cylinder head and compresses fresh gases in the cylinder. At the same time it creates a partial vacuum in the crankcase, opening the carburetor check valve and air valve, through which fresh gases are drawn into the crankcase. When the piston reaches the end of this "compression stroke", the spark at the spark plug ignites the compressed gases, and expansion of the burning mixture forces the piston away from the cylinder head. As the piston moves away the carburetor valves close, and gases in the crankcase are compressed.



Compression Stroke



Power Stroke

The lower illustration shows the piston nearing the end of this "power stroke" where it first uncovers the exhaust ports, and burnt gases start to escape. Immediately afterward the piston also uncovers the intake ports, and fresh compressed gases from the crankcase rush through them into the cylinder. The deflector on the piston sweeps these fresh gases toward the cylinder head and spark plug, forcing the remaining burnt gases out through the exhaust ports.

As the flywheels and crankshaft turn, the piston starts back toward the cylinder head on another "compression stroke" and again covers the ports. The fresh gases are again compressed, ignited, expanded, and exhausted. This same cycle of events is repeated over and over rapidly when the engine runs.

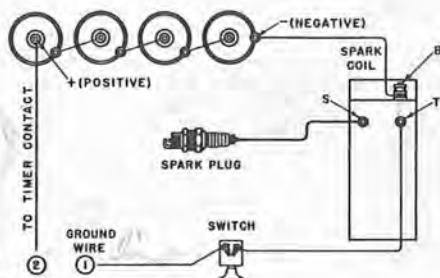
## BATTERY IGNITION

The battery ignition system includes four dry cells and a coil, both carried in the battery box and wired to the timer on the engine which closes and opens the electrical circuit. A switch cuts off or turns on the ignition. This switch should always be open (down) when working on the engine or not using the car.

An engine which misses when cold and first started will usually fire regularly after being warmed up. Before changing ignition, warm up engine and try different carburetor adjustments. Then if ignition is suspected, check all wiring, switch, and connections. Tighten coil connections lightly.

New dry cells test 30 to 35 amps each and are good for several months, or until exhausted to 8 or 10 amps. Then replace entire set. Freezing reduces their efficiency, necessitating more frequent replacement in cold weather. Keep inside of battery box dry; cardboard cases on dry cells; dry cells firmly wedged in place so connections do not touch each other; and wiring free from oil, gasoline, and water.

Wiring of the S2 series H is shown in the diagram. The "ground" wire from lower timer terminal connects to the switch.



**NOTE**--Cars with generator and storage battery have one side of the electrical system permanently grounded. Coil, switch, and timer all connect in "live" side of circuit. This brings wire marked 1 from switch to insulated timer contact; the other side of timer is grounded by the mounting and an additional wire. Battery terminal marked 2 is then also grounded.

#### SPARK COIL

Always keep spark coil dry, and use only four dry cells. If system is in good condition, a  $\frac{1}{4}$ " to  $\frac{5}{16}$ " spark should jump from end of high tension cable to engine. If not, vibrator points may require attention or a new coil may be necessary. When rough or pitted, dress the alloy vibrator points clean and smooth with a fine file, pocket stone or emery cloth. After they wear thin, fit a complete new vibrator F4166 to the coil. See that points match and seat together evenly at all times, and that the point opening is  $\frac{1}{32}$ ".

To check current draw of coil, use an accurate low reading ammeter (Fairmont F7838). Remove spark plug and lay it on some metal frame member, or disconnect high tension cable and hold it about  $\frac{1}{8}$ " from engine. Close ignition switch and turn flywheels until timer points close and cause coil to buzz. Open switch, then hold ammeter leads firmly against switch binding posts. With good batteries the current draw should be .85 to .90 amps. Adjust coil draw by carefully bending the farthest end of vibrating point bridge down toward coil box to increase the current, or up to reduce the current, as required.

#### SPARK PLUG

To test, remove from engine and lay on some metallic part of car or engine, high tension cable attached. Close (pull up) switch and turn engine until the coil buzzes. If spark at plug gap is not steady, check high tension cable and clean the plug,



then test again. If condition of plug is doubtful, replace plug. Set points at 1/32" gap for battery ignition and 1/64" for magneto ignition. Check and reset gap whenever plug is removed. Always carry a spare plug for emergency use. Replacement plugs should duplicate the factory plug closely and be 18 mm size.

### TIMER ADJUSTABLE WEATHERSEALD

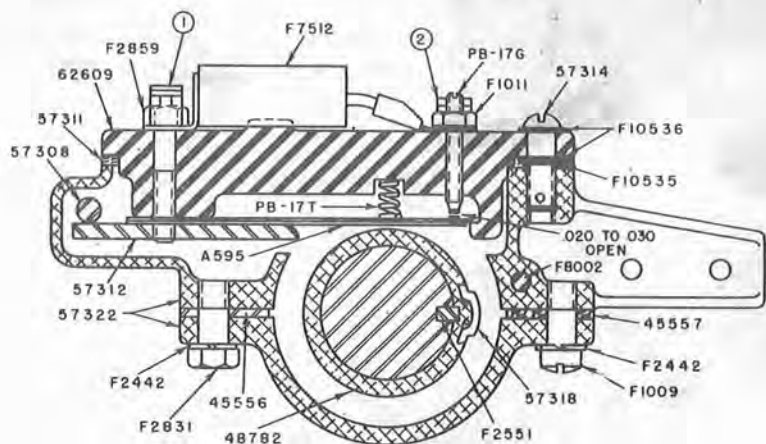
The Fairmont Adjustable Weatherseald Timer uses the standard A595 double leaf spring blade and has contact points enclosed in the mounting casting to prevent entrance of moisture, oil, and foreign matter. This timer is used on RQ-D battery ignition engines numbered 88480 and higher and is also applicable to earlier RQ-D units.

The interval during which the timer points close to produce the spark should be 30° to 35°, or about one tenth of a flywheel revolution. This measures 5-1/2" to 6" for RQ-D engines with 20" flywheels. To check this measurement, close switch and slowly turn flywheel until the contact points just close, causing coil to buzz. Mark flywheel rim in line with timer handle or some fixed object. Again turn flywheel in same direction until coil just stops buzzing and mark flywheel as before. If adjustment is necessary turn arc adjusting screw 57314 to right to increase the interval and to the left to decrease it. **CAUTION--Do not attempt to adjust timer with engine running.**

Best ignition is obtained with the contact points adjusted with .020" to .030" opening. Following is an easy way to set them. Remove timer body from mounting casting by releasing arc adjusting screw 57314. Loosen lock nut on point adjusting screw PB-17G. Turn this screw down until the two points just touch, then back screw out a scant 1/2 turn and tighten the lock nut. Check with a feeler gauge if one is available.

**DO NOT ADJUST THE TIMER POINTS TO CHANGE THE LENGTH OF CONTACT--keep them set at .020" to .030" opening.**

If the points burn or wear unevenly, dress them with a fine file, pocket stone, or fine emery cloth. Be sure they match and seat together evenly when adjusted. Keep timer connections clean and tight. The mounting casting should be adjusted

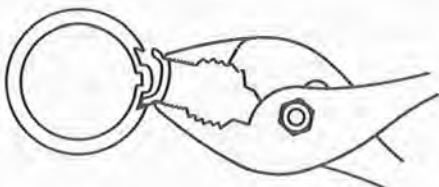


closely on the support casting, yet be free to move when spark is "advanced" or "retarded".

To renew timer blade, remove body assembly from mounting casting, and loosen clamp screw F2859. Be careful not to lose PB-17T spring. Reassemble with new parts, making sure clamp block is clean to insure a good connection; also lined with blade and rounded end towards the points, and that the two contact points match and seat together evenly. Adjust points to .020" to .030" and reassemble on mounting casting, then adjust for proper contact interval as explained previously.

The nylon timer wiping block 57318 can be quickly and easily replaced as follows: Remove complete timer from support casting. Turn flywheel so timer wiping block is exposed through opening in support casting. With a pair of pliers opened wide grasp the wiping block as shown. Apply pressure on pliers, at the same time tilt pliers either up or down. This will release wiping block from one lip of cam sleeve and permit removal.

Use pliers to install new wiping block, placing one edge under sleeve lip, then apply just enough pressure to clear other lip of cam sleeve. The wiping block tends to straighten out, causing it to lock snugly in the cam sleeve. Center wiping block under timer blade and apply a thin coat of grease. Adjust points, reassemble timer on support casting, and reset contact interval.



The sponge rubber gasket 57311 seals the timer from water, snow and foreign matter. When applying a new gasket first clean timer body - then moisten adhesive side of gasket with gasoline and press into place.

*Always check and readjust point opening, and length of contact interval, after making any repairs or removing timer parts from engine.*

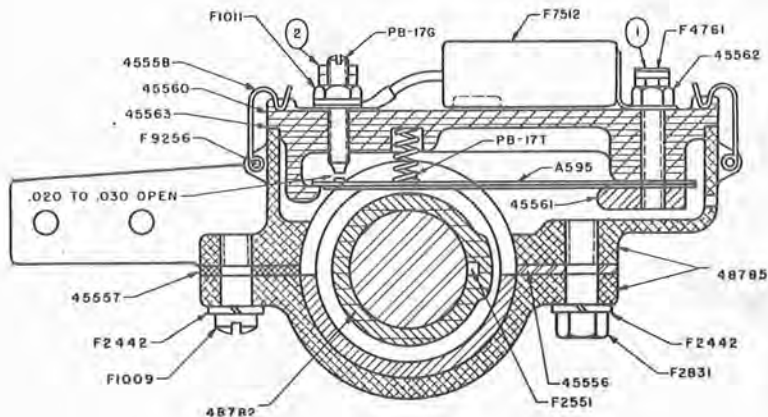
**WEATHERSEALD  
TIMER (NON-  
ADJUSTABLE)**

Keep timer connections clean and tight and the contact points free from pits and scale. The timer casting should be adjusted closely on the timer support casting, yet free enough to move when the spark is "advanced" or "retarded". If the points burn or wear unevenly, dress them with a fine file, pocket stone, or fine emery cloth. Timer is equipped with an ignition condenser that is bridged across the timer points to reduce burning and scaling of points, thereby giving more efficient ignition operation. When the cast one piece timer cam wears so it will not properly close the points replace with the late style cam with nylon wiping block, see page 14B. Remove flywheel and timer support casting. Loosen set screw, remove old cam and and replace with new one. Center wiping block under timer blade and apply a thin coat of grease. Adjust points and re-assemble timer casting and flywheel.

Occasionally apply a thin coat of cup grease or similar lubricant to cam and blade wearing surfaces. The frequency of this lubrication will depend on the hours of service.

Best ignition is obtained with the contact points adjusted from .020" to .030" opening. Following is an easy way to set them: Remove the body assembly from the mounting casting by releasing the snap springs at each end of the body assembly. Loosen the lock nut on adjusting screw PB-17G. Turn this screw down until the two points just touch, then back it out a full 1/2 turn and tighten the lock nut. Reassemble body assembly on the mounting casting.

To renew a timer blade, remove the body assembly from the mounting casting by releasing the snap springs at each end of the body assembly. Loosen timer blade screw 45562 and remove clamp block 45561. Old blade can then be removed and a new one put in its place. Be careful not to lose the PB-17T spring. Replace the clamp block and tighten the screw making sure the clamp block is lined with the blade and with the rounded end towards the points. Also be sure the two contact points match and seat together evenly. Adjust the points and reassemble body assembly on the mounting casting.



**CARBURETOR**

The carburetor control knob turns to open or close the needle valve and pulls up to choke the carburetor. If needle valve is opened too far the mixture will be "rich". Black smoke from the exhaust indicates a "rich" mixture. With needle valve closed too much the mixture is "lean". A "lean" mixture gives a weak explosion and causes engine to run unevenly, missing a few explosions or back firing.

The needle valve should always be set so the engine runs best with the least gasoline. The best adjustment for a warm engine is between 1 and 1½ turns open. When starting in cold weather, open needle valve at least a turn more than the regular adjustment. After engine is warmed up, needle valve can be closed to the regular adjustment. Don't close needle valve when stopping engine, nor shut it hard. Springs on check and air valves are set with correct tension at factory and should not be changed.

Sometimes a hot engine will start hard after standing a short time. This is caused by "flooding", or a very rich mixture forming in the crankcase. A "flooded" engine can be cleaned out by opening crankcase drain cock and rocking flywheels.

The small vent hole in body of carburetor should be kept open. If gasoline runs out, or constantly drips, float valve is not seating properly. To remedy, take off and clean strainer bowl and drain carburetor, then replace parts. If float valve continues to leak, shut off gasoline, remove float bowl, and inspect float valve, float lever bearing and hinge pin. New parts should be applied if these are badly worn, and float level checked.

With float lifted to its high position and float valve tight on the seat, the top surface of float should be 3/8 to 7/16 inch below top rim of bowl. If the distance is less than this, the float valve and seat should be renewed. The strainer bowl should be taken off and cleaned regularly.

**AIR  
CLEANER**

Cars are equipped with open screen type of air cleaners as standard. Clean the screen every two to four weeks, depending on conditions. Extremes may necessitate other intervals. To clean, remove screen assembly and wash in gasoline or engine fuel mixture. Allow screen to dry thoroughly, then dip in medium engine oil, drain and replace.

**CONNECTING  
ROD - STEEL**

The piston pin bushing is pressed into the connecting rod, and reamed for .001" to .002" clearance on the piston pin. The bronze backed babbitt bushing at the crankpin end wears slightly in service and needs occasional adjustment. A dull rattling sound in crankcase as engine slows down usually indicates a worn or loose connecting rod bearing.

To adjust a loose connecting rod, remove carburetor. Remove lock wire, both screws, cap and shims. Peel off layers from each shim, according to looseness; then replace cap and shims, drawing screws tight, and test adjustment. If still loose, continue until correct. Do not file the bronze cap. There should be but very little play in this bearing. If piston rebounds from compression the bearing is not too tight. Be sure screws are tight, then lock with a new wire.

**PISTON  
AND RINGS**

The piston has a floating piston pin held in place by lock rings. Four piston rings prevent loss of compression. The three rings on the head end are doweled in place to prevent their turning, while the one on skirt end is free. When fitting new rings in cylinders, the ends should have an opening of .016" to .026". Rings may be slipped on or off the piston by inserting thin strips of metal under them. When replacing piston in cylinder, have rings properly located on dowel pins.

To pull piston from cylinder, first remove carburetor, then disconnect connecting rod. Remove water jacket and take off cylinder head, after which piston and rod can be pulled. When replacing piston, be sure the deflector is in proper position (see cut on page 13). The piston pin and holes in the piston and connecting rod are finished to insure assembly without fitting. Always use a new pin with a new piston.

**FLYWHEELS**

Flywheels are located on crankshaft tapers by keys, and drawn to place by nuts. Don't try to drive flywheels off as spokes are liable to be cracked, crankshaft sprung, or bearings damaged. To remove a flywheel, pull cotter and unscrew nut. With a brass or lead hammer weighing about 3 lbs. sharply strike end of crankshaft, at same time pulling outward on flywheel rim. Flywheels which have been in place a long time may stick, and a jaw wheel puller should be used. When replacing flywheel, wipe parts clean and oil, draw nut fairly tight and insert cotter.

**ROLLER  
BEARINGS**

Roller bearing installations on FAIRMONT equipment are approved by the bearing manufacturer's engineers, and bearings have proper load capacities and clearances to insure satisfactory service. Don't strike bearings with steel hammers. Always drive them off evenly with a brass punch held against inner races only, being careful not to damage the roller retainers. A piece of clean tubing which just slips over the shaft is best to drive them back in place. Never lay bearings on work benches or heat with a torch. Wash in gasoline or hot soda bath as soon as removed, lubricate with oil, and wrap in clean paper or cloth.

**CRANKSHAFT  
AND ROLLER  
BEARINGS**

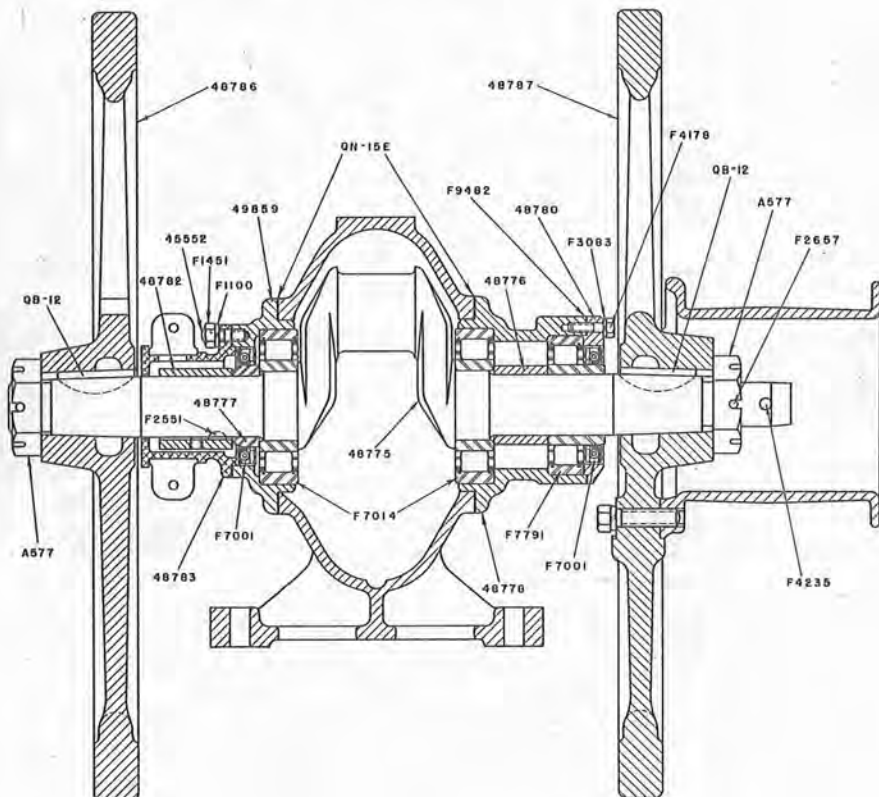
The crank pin, inboard roller bearings and outboard roller bearings are lubricated by oil which enters the crankcase mixed in the fuel.

To remove crankshaft disconnect connecting rod, then push piston and rod assembly toward cylinder head. Take off flywheels and remove starting crank pin from crankshaft. Remove nuts holding side bearing casings and carefully drive them off with a block of wood. Remove timer cam and key, turn crank pin straight down in crankcase, then lift out crankshaft with bearings.

The three roller bearing races are pressed on the crankshaft, the inner two having rollers and cages assembled on them. If necessary to remove them, they should be driven off evenly, with a brass punch against inner races only. The oil seal race on timer side is forced off as the bearing race is removed. On the belt side the outboard bearing inner race is removed first, then the spacing sleeve, and finally the inboard bearing race and rollers. Outer races of the two inboard bearings are pressed in the side bearing casings, also the outer race and rollers of the outboard bearing. Outer races may be driven from the casings with a bent punch.

Smooth all burrs and rough places on the crankshaft shoulders and fillets before reassembly, then carefully press or drive on the inner races with rollers. Also press or drive the oil seal race on the timer side against the inner bearing race with the beveled edge out. Tap belt side spacing sleeve against inner bearing race, then press or drive on the outboard bearing race. Apply timer cam and tighten set screw. Outer races for the inboard bearings must be squarely pressed and seated in the bearing casings, thrust shoulders first.

Clean gasket joints, remove timer support casting from side bearing casing, and oil bearings before reassembling. Replace crankshaft and bearings in crankcase, apply a new gasket, then start timer side casing with outer race on the rollers squarely and carefully tap to place. Be sure oil seal fits properly on the oil seal race. When applying the side bearing nuts first draw one up just snug, then tighten the opposite one equally. Set the remaining two the same way and finally tighten all four nuts evenly. Next "seat" the roller bearing in the casing by lightly tapping the opposite end of the crankshaft. Apply belt side casing with a new gasket, and tighten as instructed for timer side. Be sure this casing is drawn evenly to place and concentric with the crankshaft.



The crankshaft and bearing assembly must have 1/64" to 1/16" clearance when side bearing casings are bolted in place. Check this by tapping crankshaft on one end, then the other, and measure the amount it shifts. An extra gasket may have to be added at one or both bearing casings to secure clearance. Replace belt side casing cover, using a new gasket, and be sure oil seal is in good condition. On the timer side, replace the timer support casting on the side bearing casing, with opening for timer blade towards carburetor end of engine. Flywheels and remaining parts can then be reassembled.

#### THROTTLE

Leakage at the throttle stem is prevented by a packing. The stop in opposite cover limits the valve travel. The throttle arm is held in place by a clamp screw that should be kept tight. If this arm slips, the throttle may not open properly. The throttle valve can be pulled out from belt side of engine after removing valve cover and belt side flywheel.

#### CARBON DEPOSITS

After long service the piston head, inside of cylinder head, and walls of combustion chamber become coated with carbon. Knocking or "pinging" then occur when the engine is warmed up, especially when pulling loads. Carbon can be scraped out after removing water jacket and cylinder head. Clean the intake and exhaust ports; removing the muffler and throttle valve makes it easier. Carbon inside the piston head and deflector should also be removed. Wipe or blow out loose carbon before reassembling.

When replacing cylinder head and water jacket be sure the gasket and joints are clean. First tighten every other cylinder head nut just snug, then set the remainder the same way. Next go over all of them, tightening to place evenly.

## INSTRUCTIONS FOR ORDERING PARTS

When this bulletin is received complete the following motor car record from the FAIRMONT name plates on the car, and on the engine water jacket. The engine number is also stamped on top of the crankcase. Always mention these factory serial numbers when writing about the car or ordering parts.

Factory Car No. \_\_\_\_\_ Class \_\_\_\_\_ Series \_\_\_\_\_

Group \_\_\_\_\_ Special \_\_\_\_\_

Factory Engine No. \_\_\_\_\_ H. P. \_\_\_\_\_ Type \_\_\_\_\_

Group \_\_\_\_\_ Special \_\_\_\_\_

**TO INSURE PROMPT AND CORRECT SHIPMENT** of parts always give:

- (1) Quantity of each part wanted.
- (2) Symbol number of part as shown in this book.
- (3) Description of part as shown in this book.
- (4) Factory serial numbers recorded above.
- (5) Car gauge if other than 56 $\frac{1}{2}$ " standard.
- (6) State whether shipment is to be by mail, express, or freight.

All parts are shipped f.o.b. factory, transportation charges to be paid by customer. Terms are strictly cash with order.

Parts are listed by description, symbol, and quantity, and all important items illustrated. Quantities in right hand columns show the number of parts in each assembly or group. Items printed in capitals are assemblies which include all parts listed immediately following and indented to the right. When assemblies can be used, always order them to save work of fitting separate parts. If in doubt as to any part wanted, send full description or sketch, or send old part with order.

For descriptive purposes the engine end of car is named front, and right and left are determined by looking from rear to front.

Common bolts, nuts, and washers are not listed in this bulletin, as they can be obtained from any railroad store department.

The weight and numerical part list on pages 21 through 23 contains all items shown in the parts section covering standard direct belt drive battery ignition cars. Spare parts for accessories, and parts used on special cars only, are not listed in this index.

Spare parts of accessory groups are given on pages 46 through 48. Items used only on cars having figures in the space on the name plate marked "Special" are listed according to car designation, starting on page 49.

### CAR IDENTIFICATION

(Found on Car Name Plate)

To accurately identify cars, all units carry the designation "Class S2---Series H--Group\_\_\_\_--Special\_\_\_\_." The group number is always shown, and cars having changes to customers' specifications also have figures in the space marked "Special." When the letter "Z" appears in the designation, it indicates either broad or narrow gauge.



## ESTIMATING PRICE LIST

This list covers all parts in S2 Series H car bulletin 571 as of January 15, 1953, and shown in NUMERICAL CHECKING LIST on pages 21, 22 and 23. The prices are for estimating purposes only in the United States. They are issued for convenience in preparing requisitions and estimating repair costs. A reasonable amount has been added to these prices to cover transportation, so that they can be considered as approximate costs of the parts f. o. b. destination in the United States.

RQ-D.....	220.55	F1023.....	.96	F1451.....	.02	F3651.....	.23
Q-6.....	.47	F1025.....	.01	F1493.....	.02	F3718.....	.06
G-8C.....	.42	F1029.....	.02	F1649.....	.04	F3853.....	.14
PN-8A.....	.17	F1040.....	.02	F1688.....	.14	F3854.....	.35
QN-8D.....	.20	A1057.....	8.35	F1692.....	.01	F3855.....	.18
QB-12.....	.31	A1060.....	.50	F1741.....	1.05	F4026..ft.	1.15
G-13C.....	1.20	A1065.....	.84	F1903.....	.02	F4125.....	2.20
G-13D.....	.30	A1073.....	56.85	F1969.....	.02	F4166.....	.62
Q-13E.....	.63	F1075.....	.02	F1971.....	.02	F4178.....	.02
QB-13A.....	4.85	F1081.....	.72	F2035.....	.07	F4216.....	3.05
QB-13B.....	2.75	A1088.....	.17	M2314.....	.14	F4235.....	.09
QN-15E.....	.11	F1100.....	.01	F2442.....	.01	F4252.....	.09
PB-17G.....	.51	F1103.....	.02	F2447.....	.07	M4442.....	.12
PB-17T.....	.15	A1132.....	.34	F2493.....	.03	M4447.....	.11
QH-20.....	5.80	A1182.....	58.20	F2545.....	.04	F4635.....	.02
P-21D.....	.07	A1185.....	67.65	F2551.....	.02	F4761.....	.12
QH-21A.....	1.40	F1194.....	.02	F2581.....	.02	F5115.....	1.45
P-43C.....	.46	A1198.....	36.65			F5158.....	.20
Q-47B.....	.18	F1222.....	.06	F2657.....	.02	F5193.....	.18
QN-47D.....	.18	F1291.....	.01	F2702.....	.03	F5493.....	6.75
C-48.....	.12	A1316.....	31.00	F2703.....	.24	F5603.....	.62
D-48A.....	.17	A1319.....	13.25	F2733.....	.02	F5855.....	.13
TF-68F.....	.31	A1321.....	.89	F2737.....	.03	F6470.....	.04
QB-84.....	7.50	A1322.....	1.10	F2753.....	.07	F6537.....	.01
PH-90F.....	.41	A1324.....	.07	F2754.....	.04	F6578.....	9.90
Q-91.....	.35	A1325A.....	1.30	F2831.....	.02	F6584.....	.51
M102.....	.25	A1326.....	.06	F2859.....	.09	F6699..ft.	.73
QB-113.....	13.15	A1327.....	1.30	F2866.....	.01	M6738.....	.15
QB-213.....	21.45	A1328.....	1.05	F2879.....	.04	F6823.....	28.20
A406.....	.11	A1331.....	.89	F2945.....	.62	F7001.....	1.05
A410.....	.56	A1332.....	.09	F2946.....	.55	F7014.....	10.60
EZ453.....	.04	A1334.....	1.00	F2948.....	.33	F7106.....	.84
EZ454.....	.31	A1341.....	.43	F2958..ft.	.07	F7112.....	.55
EZ456.....	.37	A1342.....	1.10	F3006..ft.	.18	F7119.....	.01
EZ472.....	1.35	A1344.....	.33	F3011.....	.28	F7120.....	.02
EZ530.....	.64	A1345.....	5.50	F3029.....	.07	F7121.....	.02
EZ540.....	.04	A1347.....	.81	F3030.....	.04	M7220.....	3.50
EZ541.....	.07	A1349.....	.31	F3032.....	.12	F7242.....	.02
A577.....	.95	A1350.....	.68	F3054..ft.	.02	F7244.....	.28
A595.....	1.20	A1366.....	.06	F3079.....	.03	F7273.....	.09
A646.....	.22	A1367.....	.40	F3083.....	.01	F7370.....	.06
A695.....	.95	A1368.....	1.35	F3096.....	.67	F7455.....	.84
A868.....	10.35	A1369A.....	1.65	F3132.....	.28	F7506.....	.07
A871.....	.17	A1371.....	11.05	F3148.....	.03	F7512.....	.62
A873.....	12.30	A1372.....	3.75	M3226.....	1.10	M7556.....	3.10
A874.....	33.15	A1384.....	.55	F3366.....	.04	F7608.....	.19
F1000.....	.02	A1386.....	.81	F3495.....	.02	M7677D.....	11.45
F1007.....	.02	A1387.....	6.15	F3515.....	.11	F7791.....	7.70
F1009.....	.07	A1390.....	14.90	M3550.....	.24	F7868.....	.54
A1011.....	1.00	A1391.....	.75	F3598.....	.02	F7876.....	.26
F1011.....	.02	F1402..ft.	.18	F3613.....	.73	F7877.....	.17
A1012.....	1.05	F1416.....	.02	F3614.....	.33	F7901.....	.09
						F7916.....	.14

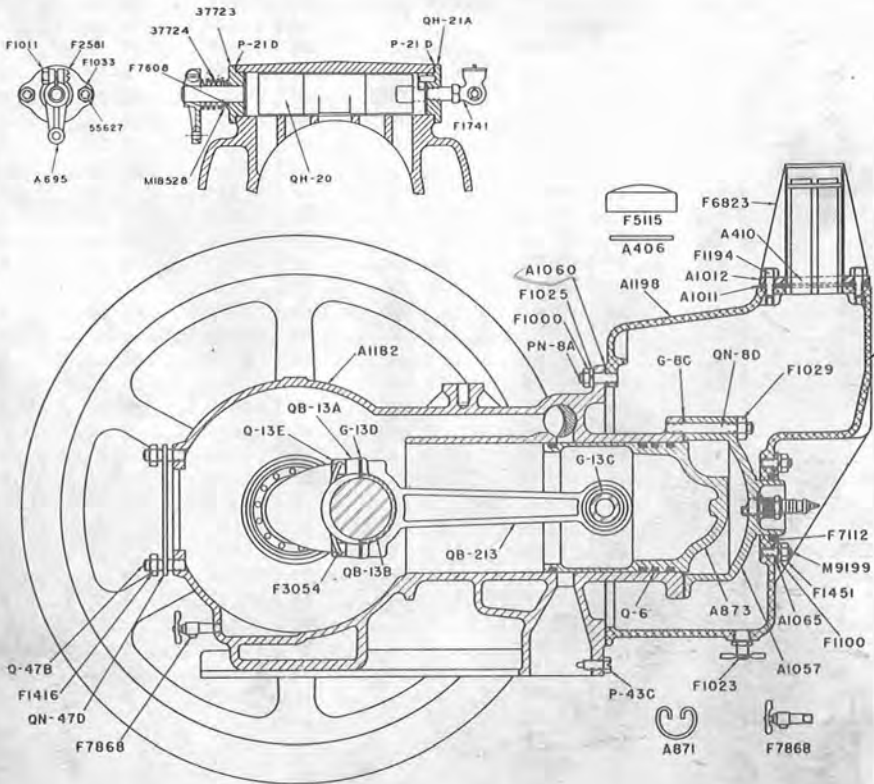
F7926	.08	M24814	.75	48640	5.60	48816	.84
F7949	3.90	M24837	1.00	48716	15.85	48817	.73
F7953	1.75	M27175	3.60	48717	8.90	48818	1.85
F7954	1.15	M28351	1.30	48718	16.95	48822	7.55
F7955	.95	M28761	.50	48720	138.50	48825	2.90
F7956	.73	M28764	1.80	48721	9.50	48826	12.65
F7957	.67	M29663	.88	48722	9.50	48832	18.15
F7978	11.20	M29829	.63	48723	5.45	48833	1.10
F7979	.30	M30342	.12	48724	4.85	48834	1.10
F7996	5.90	M30343	.12	48725	4.85	48835	6.90
F8002	.04	M30344	.12	48726	7.80	48836	.55
F8036	.67	M30450	.12	48727	7.80	48837	.83
F8037	.42	M30451	.12	48729	1.50	48838	27.65
F8038	.48	M30452	.12	48732	1.50	48839	1.20
F8039	.48	M32621	1.45	48735	.95	48840	1.20
M8509	1.00	M34410	2.20	48736	.95	48841	9.95
M8510	.88	M34916	2.75	48737	1.05	48852	.89
F8692	.25	M34917	2.75	48739	9.00	48855	.84
F9182	.24	M35062	.88	48741	4.85	48856	.59
M9199	.14	M35511	1.35	48742	2.05	48857	.33
F9217	.17	M35798N	12.05	48743	2.75	48858	.43
F9231	.12	M36277	2.30	48745	5.15	48859	.88
F9256	.02	M36324A	3.10	48746	4.20	48862	.18
F9448	.55	M36398	4.90	48751	.84	48863	7.35
F9482	.13	M36400	1.05	48752	5.70	48865	3.45
10069	.34	M36601	.10	48755	5.70	48868	5.40
F10535	.04	M36639	1.05	48757	1.80	48869	1.35
F10536	.01	M36670	7.55	48759	2.30	48870	1.95
F10601	.04	M36709	1.95	48760	2.50	48871	1.00
M11405	7.50	M36865	.15	48761	1.15	48872	1.00
M11410	3.20	M36866	.28	48762	1.65	48873	.35
M11479	.11	M36867	.28	48763	.81	48876	1.35
F11874	1.10	M36871	.21	48764	.56	48877	.37
M12024	.20	M37085	2.15	48775	39.45	48878	.96
M12177	.77	37502	1.35	48776	2.30	48880	.73
M12335	.28	37723	1.35	48777	5.15	48987	3.75
M12336	.21	37724	.41	48778	11.40	48993	13.75
M12376	.35	38834	1.80	48780	4.05	49857	2.30
M15221	.19	39530	.19	48782	3.10	49858	73.85
M15343A	2.45	41039	.28	48783	4.05	49859	10.35
M15351N	6.50	43653	.69	48784	14.15	49860	9.00
M16102	4.80	43654	1.30	48785	3.30	49940	.31
M16103	4.35	43655	1.30	48786	14.75	50517	1.10
M16104	4.45	43656	1.65	48787	14.75	50518	1.10
M16397	.55	44543	.12	48789	4.55	50519	.55
M16492	.75	45235	.90	48790	.36	50523	1.00
M16725	.55	45236	.47	48791	4.05	51127	6.55
M17061	.28	45552	.15	48795	37.85	51140	1.35
M17277	1.60	45556	.09	48796	26.30	51142	7.10
M18523	.15	45557	.12	48797	10.40	51666	2.55
M18663	.43	45558	.89	48798	7.65	53342	.17
M18931	.28	45559	8.25	48799	11.70	54216	1.60
M19529	.75	45560	5.25	48800	2.00	54219	.31
M21281	.15	45561	.31	48802	30.30	54320	1.20
M22500	.43	45562	.38	48804	14.50	54565	4.05
M22664	.39	45563	.15	48806	14.50	55627	.14
M24765A	10.35	46023	.10	48807	3.75	57308	.22
M24766A	2.45	46252	.95	48809	.30	57309	8.25
M24770A	2.45	46559	.25	48812	.35	57311	.44
M24796	.50	46565	9.35	48814	.73	57314	.28
M24813A	.47	46570	.50	48815	.44	57318	.50
						57322	6.10
						62609	3.90

## WEIGHT AND NUMERICAL PART INDEX

SYMBOL	(APPROX) WEIGHT	PAGE						
RQ-D	242 lb.	43	A1060	3/4 oz.	25	F2447	1/4 oz.	27, 33
Q-6	3 oz.	24	A1065	5 oz.	25	F2493	1/4 oz.	39
G-8C	1 oz.	25	A1073	34 1/2 lb.	25	F2545	1/4 oz.	41
PN-8A	3/4 oz.	25	F1075	1/2 oz.	41	F2551	1/4 oz.	27, 32, 33
QN-8D	2 oz.	25	F1081	2 lb.	35	F2581	1/2 oz.	25
QB-12	2 oz.	27	A1088	3/4 oz.	25	F2657	1/4 oz.	27
G-13C	6 oz.	24	F1100	1/4 oz.	25	F2702	1/4 oz.	39
G-13D	1/2 oz.	24	F1103	2 oz.	37	F2703	9 oz.	37
Q-13E	2 oz.	24	A1132	1/4 oz.	41	F2733	1 oz.	37
QB-13A	11 oz.	24	A1182	59 1/2 lb.	25	F2737	1/4 oz.	37
QB-13B	4 oz.	24	A1185	61 lb.	25	F2753	1 1/2 oz.	37
QN-15E	1/4 oz.	27	F1194	1/4 oz.	25	F2754	1/4 oz.	41
PB-17G	1/4 oz.	32, 33	A1198	25 1/2 lb.	25	F2831	1/4 oz.	33
PB-17T	1/4 oz.	32, 33	F1222	1/4 oz.	39	F2859	1 oz.	32
QH-20	6 oz.	25	F1291	1/4 oz.	43	F2866	1/2 oz.	39
P-21D	1/4 oz.	25	A1316	3 1/2 lb.	29	F2879	1 oz.	41
QH-21A	3 oz.	25	A1319	1 1/2 lb.	29	F2945	13 oz.	35
P-43C	1 oz.	25	A1321	1/4 oz.	29	F2946	7 oz.	35
Q-47B	1 oz.	25	A1322	1 1/4 oz.	29	F2948	2 oz.	35
QN-47D	1 oz.	25, 29	A1324	1/4 oz.	29	F2958	1/2 oz.	35
C-48	1/2 oz.	35	A1325A	2 oz.	29	F3006	3/4 oz.	25
D-48A	3 oz.	35	A1326	1/4 oz.	29	F3011	1 oz.	45
TF-68F	1/4 oz.	31, 45	A1327	1/4 oz.	29	F3029	1/4 oz.	31
QB-84	6 1/2 lb.	41	A1328	3/4 oz.	29	F3030	1/4 oz.	31
PH-90F	1 oz.	31	A1331	1 oz.	29	F3032	1 oz.	27, 33, 35
Q-91	3 oz.	31	A1332	1/4 oz.	29	F3054	1/4 oz.	ft. 24, 31, 37, 39
M102	1 oz.	41	A1334	1/4 oz.	29	F3079	1/4 oz.	43
QB-113	24 lb.	24	A1341	1 1/2 oz.	29	F3083	1/4 oz.	27
QB-213	34 lb.	24	A1342	1 1/2 oz.	29	F3096	7 oz.	35
A406	1 oz.	25	A1344	1/4 oz.	29	F3132	1 oz.	45
A410	3 oz.	25	A1345	12 oz.	29	F3148	1 oz.	43
EZ453	1/4 oz.	29	A1347	1/2 oz.	29	M3226	5 oz.	41
EZ454	1/4 oz.	29	A1349	1/4 oz.	29	F3366	3/4 oz.	31
EZ456	1/4 oz.	29	A1350	1/2 oz.	29	F3495	1 oz.	43
EZ472	2 1/2 oz.	29	A1366	1/4 oz.	29	F3515	1 oz.	45
EZ530	1 oz.	29	A1367	1/4 oz.	29	M3550	1/2 oz.	39
EZ540	1/4 oz.	29	A1368	1 1/4 oz.	29	F3598	1/2 oz.	39, 41
EZ541	1/4 oz.	29	A1369A	1 oz.	29	F3613	4 oz.	31
A577	9 oz.	27	A1371	9 oz.	29	F3614	2 oz.	31
A595	1/4 oz.	32, 33	A1372	8 oz.	29	F3651	1 oz.	31
A646	1/2 oz.	29	A1384	1/4 oz.	29	F3718	3/4 oz.	37
A695	2 oz.	25	A1386	1 oz.	29	F3853	1/4 oz.	31
A868	7 1/2 lb.	24	A1387	6 oz.	29	F3854	1 oz.	31
A871	1/4 oz.	24	A1390	1 3/4 lb.	29	F3855	1/4 oz.	31
A873	8 lb.	24	A1391	2 oz.	29	F4026	14 oz.	31
A874	11 1/2 lb.	24	F1402	3/4 oz.	35	F4125	13 oz.	35
F1000	1/4 oz.	25, 41	F1416	1/4 oz.	25	F4166	1 oz.	35
F1007	1/2 oz.	37	F1451	1/4 oz.	25, 27	F4178	1/4 oz.	27
F1009	1/2 oz.	32, 33	F1493	1/2 oz.	41	F4216	10 oz.	41
A1011	5 oz.	25	F1649	1 oz.	41	F4235	1/2 oz.	29
F1011	1/4 oz.	25, 33	F1688	1/4 oz.	31	F4252	1/2 oz.	37, 41
A1012	11 oz.	25	F1692	1/4 oz.	29	M4442	2 oz.	37
F1023	4 oz.	25	F1741	2 oz.	25	M4447	1/2 oz.	37
F1025	1/4 oz.	25	F1903	1/4 oz.	25	F4635	1/4 oz.	37
F1029	1/4 oz.	25, 27	F1969	1/4 oz.	29	F4761	1/4 oz.	33
F1040	1/4 oz.	25, 31, 41	F1971	1/4 oz.	29	F5115	4 oz.	25
A1057	5 1/2 lb.	25	F2035	1/4 oz.	31	F5158	1/2 oz.	37, 41
			M2314	1/4 oz.	35	F5193	1 oz.	31
			F2442	1/4 oz.	33	F5493	1 1/2 lb.	37

F5603.....	2 oz.....	35	M11405.....	30 lb.....	37	M36867.....	1 lb.....	35
F5855.....	2½ oz.....	43	M11410.....	10½ lb.....	37	M36871.....	3 oz.....	35
F6470.....	¼ oz.....	29	M11479.....	3½ oz.....	37	M37085.....	8 oz.....	31
F6537.....	¼ oz.....	31	F11874.....	6 oz.....	35	37502.....	1 oz.....	29
F6578.....	9 lb.....	41	M12024.....	¾ oz.....	25	37723.....	4 oz.....	25
F6584.....	¾ oz.....	31	M12177.....	2½ lb.....	37	37724.....	1 oz.....	25
F6699.....	9 oz. ft.	27	M12335.....	7 oz.....	35	38834.....	6 oz.....	25
M6738.....	1 lb.....	35	M12336.....	1¼ oz.....	35	39530.....	1 oz., 25,	27
F6823.....	8 lb.....	25	M12376.....	14 oz.....	35	41039.....	9 oz., 25,	35
F7001.....	3 oz.....	27	M15221.....	¼ oz.....	41	43653.....	8 oz.....	41
F7014.....	2½ lb.....	27	M15343A.....	5 oz.....	41	43654.....	2 oz.....	41
F7106.....	4 oz.....	39	M15351N.....	31 lb.....	37	43655.....	6 oz.....	41
F7112.....	½ oz.....	25	M16102.....	13½ lb.....	37	43656.....	2 oz.....	41
F7119.....	¼ oz.....	29, 31, 45	M16103.....	13 oz.....	37	44543.....	2½ oz.....	43
F7120.....	¼ oz.....	39, 43	M16104.....	6½ lb.....	37	45235.....	8½ oz., 27,	43
F7121.....	¼ oz.....	31, 43	M16397.....	1 lb.....	39	45236.....	1½ oz., 27,	43
M7220.....	2 lb.....	39	M16492.....	2 oz.....	35	45552.....	¼ oz.....	27
F7242.....	¼ oz.....	45	M16725.....	1¼ oz.....	39	45556.....	½ oz.....	31
F7244.....	½ oz.....	45	M17061.....	½ oz.....	45	45557.....	¼ oz.....	31
F7273.....	2 oz.....	43	M17277.....	10½ oz.....	39	45558.....	¼ oz., 32,	33
F7370.....	¼ oz.....	29	M18528.....	¼ oz.....	25	45559.....	4 oz., 32,	33
F7455.....	5 oz.....	35	M18663.....	¾ oz.....	37	45560.....	3 oz.....	33
F7506.....	¼ oz.....	31	M18931.....	¼ oz.....	39	45561.....	1 oz.....	33
F7512.....	1 oz.....	33	M19529.....	4 oz.....	39	45562.....	½ oz.....	33
M7556.....	2¾ lb.....	41	M21281.....	¼ oz.....	41	45563.....	¼ oz.....	33
F7608.....	¼ lb.....	25	M22500.....	¼ oz.....	39	46023.....	¼ oz.....	43
M7677D.....	4 lb.....	37	M22664.....	¼ oz.....	35	46252.....	3 lb.....	43
F7791.....	1¾ lb.....	27	M24765A.....	3½ lb.....	37	46559.....	¼ oz.....	45
F7868.....	1 oz.....	25	M24766A.....	5 oz.....	37	46565.....	5 lb.....	31
F7876.....	1¾ oz.....	31	M24770A.....	6 oz.....	37	46570.....	5 oz.....	31
F7877.....	½ oz.....	31	M24796.....	4 oz.....	43	48640.....	6¾ lb.....	35
F7901.....	½ oz.....	29	M24813A.....	½ oz.....	41	48716.....	4½ lb.....	37
F7916.....	½ oz.....	31	M24814.....	4½ lb.....	41	48717.....	2¼ lb.....	37
F7926.....	¼ oz.....	35	M24837.....	2¼ oz., 27,	45	48718.....	6 lb.....	37
F7949.....	1¼ lb.....	31	M27175.....	9¼ lb.....	39	48720.....	222 lb.....	43
F7953.....	14 oz.....	35	M28351.....	5 oz.....	39	48721.....	21 lb.....	43
F7954.....	9 oz.....	35	M28761.....	¾ oz.....	39	48722.....	21 lb.....	43
F7955.....	6½ oz.....	35	M28764.....	9 oz.....	39	48723.....	17½ lb.....	43
F7956.....	3½ oz.....	35	M29663.....	2 oz.....	31	48724.....	17 lb.....	43
F7957.....	1¾ oz.....	35	M29829.....	1¾ oz.....	31	48725.....	17 lb.....	43
F7978.....	3 lb.....	41	M30342.....	¼ oz.....	37	48726.....	13½ lb.....	43
F7979.....	1 oz.....	45	M30343.....	¼ oz.....	37	48727.....	13½ lb.....	43
F7996.....	2½ lb.....	35	M30344.....	¼ oz.....	37	48729.....	2 lb.....	43
F8002.....	¼ oz., 32,	33	M30450.....	¼ oz.....	41	48732.....	2 lb.....	43
F8036.....	5 oz.....	31	M30451.....	¼ oz.....	41	48735.....	1½ lb.....	43
F8037.....	½ oz.....	31	M30452.....	¼ oz.....	41	48736.....	1½ lb.....	43
F8038.....	2½ oz.....	31	M32621.....	2 lb.....	37	48737.....	10 oz.....	43
F8039.....	¼ oz.....	31	M34410.....	6 oz.....	31	48739.....	18 lb.....	43
M8509.....	3 oz.....	37	M34916.....	5 lb.....	43	48741.....	18 lb.....	43
M8510.....	1½ oz.....	37	M34917.....	5 lb.....	43	48742.....	8 lb.....	43
F8692.....	¼ oz.....	31	M35062.....	1¼ oz.....	31	48743.....	6 lb.....	43
F9182.....	¼ oz.....	35	M35511.....	3 oz., 27,	45	48745.....	3 lb.....	43
M9199.....	½ oz.....	25	M35798N.....	36 lb.....	37	48746.....	5½ lb.....	43
F9217.....	½ oz.....	39	M36277.....	1 lb.....	39	48751.....	2¼ lb.....	43
F9231.....	¼ oz.....	45	M36324A.....	1¼ lb.....	31	48752.....	8¾ lb.....	43
F9256.....	¼ oz.....	33	M36398.....	4 lb.....	35	48755.....	8¾ lb.....	43
F9448.....	2 oz.....	41	M36400.....	10 oz.....	35	48757.....	4 oz.....	39
F9482.....	¼ oz.....	27	M36601.....	½ oz.....	39	48759.....	1¼ lb.....	39
10069.....	¼ oz.....	35	M36639.....	7 oz., 27,	43	48760.....	13½ oz.....	39
F10535.....	¼ oz.....	32	M36670.....	4½ lb.....	27	48761.....	7 oz.....	39
F10536.....	¼ oz.....	32	M36700.....	3 lb.....	39	48762.....	1¼ lb.....	39
F10601.....	1 oz.....	39	M36865.....	2 oz.....	35	48763.....	5 oz.....	39
			M36866.....	3 oz.....	35			

48764..... 1½ oz..... 39	48818..... 6 oz..... 45	48878..... 2½ lb..... 31
48775..... 14½ lb..... 27	48822..... 5 lb..... 45	48880..... 8 oz..... 35
48776..... 9 oz..... 27	48825..... 1¾ lb..... 45	48987..... 6½ lb..... 45
48777..... 10 oz..... 27	48826..... 11 lb..... 45	49693..... ½ oz..... 45
48778..... 5¾ lb..... 27	48832..... 12½ lb..... 45	49857..... 8½ oz... 25, 27
48780..... 10 oz..... 27	48833..... 3 lb..... 45	49858..... 21¾ lb..... 27
48782..... 8 oz.....	48834..... 3 lb..... 45	49859..... 4½ lb..... 27
27, 32, 33	48835..... 5 lb..... 45	49860..... 19¼ lb..... 43
48783..... 8 oz..... 27	48836..... 12 oz..... 45	49940..... ¼ oz..... 33
48784..... 14 oz..... 32	48837..... 10 oz..... 45	50517..... 2¼ lb..... 45
48786..... 45 lb..... 27	48838..... 13½ lb..... 45	50518..... 2¼ lb..... 45
48787..... 42 lb..... 27	48839..... 3½ lb..... 45	50519..... 12 oz..... 31
48789..... 1 lb..... 27	48840..... 3½ lb..... 45	50523..... 1¼ lb..... 45
48790..... ½ oz..... 27	48841..... 5 lb..... 45	51127..... 6¼ lb..... 35
48791..... 1¾ lb..... 27	48852..... 3 oz..... 45	51140..... ½ oz... 32, 33
48795..... 9 lb..... 41	48855..... 3 oz..... 45	51142..... 10¾ oz..... 29
48796..... 7 lb..... 41	48856..... 1½ oz..... 45	51666..... 2¼ lb..... 45
48797..... 3 lb..... 41	48857..... 2 oz..... 45	53342..... 1 oz... 25, 27
48798..... 2 lb..... 41	48858..... 6 oz..... 45	54316..... 5 oz..... 45
48799..... 1½ lb..... 41	48859..... 10 oz..... 45	54319..... 2 oz..... 45
48800..... 2¾ lb..... 41	48862..... ¼ oz..... 45	54320..... 5 oz..... 45
48802..... 86 lb..... 45	48863..... 11 lb..... 45	54565..... 2¼ lb..... 45
48804..... 25 lb..... 45	48865..... 2½ lb..... 45	55627..... ¼ oz..... 25
48806..... 25 lb..... 45	48868..... 4 lb..... 45	57308..... ½ oz..... 32
48807..... 6½ lb..... 45	48869..... 3 oz..... 31	57309..... 4 oz..... 32
48809..... 8 oz..... 45	48870..... 4 oz..... 31	57311..... ½ oz..... 32
48812..... 4 oz..... 45	48871..... 8 oz..... 31	57314..... ¼ oz..... 32
48814..... 6 oz..... 45	48872..... 6 oz..... 31	57318..... ¼ oz... 32, 33
48815..... 3 oz..... 45	48873..... 4 oz..... 31	57322..... 10 oz..... 32
48816..... 2 lb..... 45	48876..... 3½ oz..... 35	62609..... 4 oz..... 32
48817..... 1¾ lb..... 45	48877..... 1½ oz..... 35	



**PISTON AND CONNECTING ROD**

To insure proper fitting assemblies always order replacement pistons with pins and lock rings. Symbol A873 covers the piston with piston rings, piston pin, and lock rings. A868 covers a similar group without piston rings.

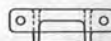
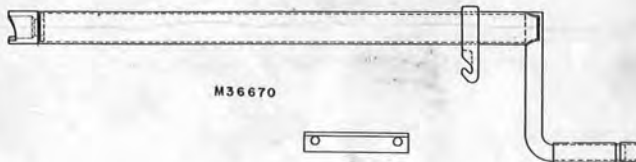
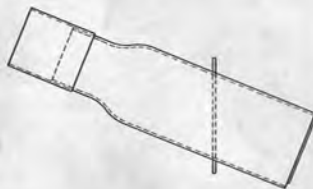
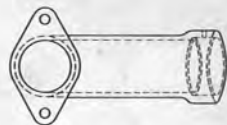
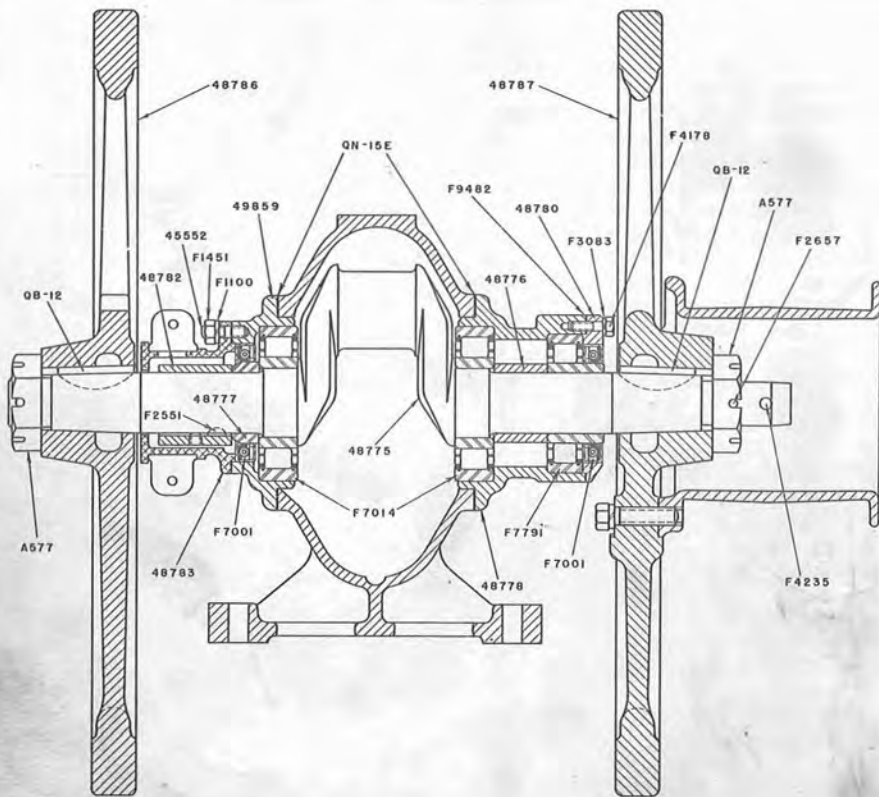
PISTON, RINGS AND CONNECTING ROD (assembled) . . . . .	A874	1
PISTON WITH RINGS, PISTON PIN AND LOCK RINGS . . . . .	A873	1
PISTON WITH PISTON PIN AND LOCK RINGS . . . . .	A868	1
Lock Ring . . . . .	A871	2
Piston Ring (notched) . . . . .	Q-6	4
CONNECTING ROD (complete) . . . . .	QB-213	1
ROD BODY WITH PISTON PIN BUSHING . . . . .	QB-113	1
Bushing (piston pin) . . . . .	G-13C	1
Cap (connecting rod) . . . . .	QB-13A	1
Bushing (connecting rod - crank end) . . . . .	QB-13B	1
Shim (connecting rod cap) . . . . .	G-13D	2
Cap Screw (connecting rod - hex head) . . . . .	Q-13E	2
Lock Wire (connecting rod cap screw) . . . . .	F3054	12"

## CYLINDER AND CRANKCASE

Gasket Set (items on page 25 and page 27 marked*) . . . . .	49857	1
CYLINDER AND CRANKCASE WITH STUDS AND THROTTLE VALVE . . . . .	A1185	1
Throttle Valve . . . . .	QH-20	1
THROTTLE GUIDE AND PACKING GROUP . . . . .	38834	1
Guide (throttle valve) . . . . .	37723	1
*Packing (throttle stem) . . . . .	F7608	1
Washer (packing pressure) . . . . .	M18528	1
Spring (packing pressure) . . . . .	37724	1
*Gasket (throttle valve guide) . . . . .	P-21D	1
Cover (throttle valve - includes stop pin) . . . . .	QH-21A	1
*Gasket (throttle guide and cover) . . . . .	P-21D	2
THROTTLE ARM, SCREW AND NUT . . . . .	A695	1
Screw (throttle valve arm) . . . . .	F2581	1
Nut (throttle valve arm screw) . . . . .	F1011	1
CYLINDER AND CRANKCASE WITH STUDS . . . . .	A1182	1
Stud (side bearing - 1-7/16") . . . . .	39530	4
Stud (side bearing - 1-7/8") . . . . .	53342	4
Stud (cylinder head) . . . . .	QN-8D	6
Stud (throttle guide and cover - 1/4 x 7/8") . . . . .	55627	4
Stud (carburetor) . . . . .	Q-47B	2
Screw (throttle guide and cover) . . . . .	F1903	4
Priming Cup . . . . .	F1741	1
Drain Cock (crankcase) . . . . .	F7868	1
Cylinder Head . . . . .	A1057	1
*Gasket (cylinder head) . . . . .	G-8C	1
Nut (cylinder head stud) . . . . .	F1029	6
*Gasket (carburetor to crankcase) . . . . .	QN-47D	1
Nut (carburetor stud) . . . . .	F1416	2
Set Screw (exhaust outlet) . . . . .	P-43C	1

## WATER JACKET - COOLING SYSTEM

WATER JACKET WITH CONDENSER, STUDS AND FILLER CAP . . . . .	A1073	1
Cooling Condenser . . . . .	F6823	1
WATER JACKET WITH STUDS (cap included) . . . . .	A1198	1
Stud 1-1/2" (water jacket to cylinder) . . . . .	A1088	1
Stud 1-5/8" (water jacket to cylinder) . . . . .	PN-8A	4
Stud 1-1/8" (cylinder head barrel packing) . . . . .	M9199	4
FILLER CAP (water jacket) . . . . .	F5115	1
Gasket (filler cap) . . . . .	A406	1
*Gasket (condenser to water jacket) . . . . .	A1011	1
Clamp Bar (short - end of condenser) . . . . .	A410	2
Clamp Bar (long - side of condenser) . . . . .	A1012	2
Cap Screw (hex head - condenser to jacket) . . . . .	F1194	16
*Gasket (water jacket to cylinder) . . . . .	A1060	1
Hex Nut 3/8" (water jacket stud) . . . . .	F1000	4
Hex Half Nut 3/8" (water jacket stud) . . . . .	F1040	1
Lock Washer 3/8" . . . . .	F1025	5
Water Level Cock . . . . .	F7868	1
Drain Cock (water jacket) . . . . .	F1023	1
Rust Preventative . . . . .	41039	1
Overflow Hose (not illustrated) . . . . .	F3006	21"
Clip (overflow hose - not illustrated) . . . . .	M12024	1
*Packing (cylinder head barrel) . . . . .	F7112	1
Packing Pressure Washer . . . . .	A1065	1
Hex Nut 5/16" . . . . .	F1451	4
Lock Washer 5/16" . . . . .	F1100	4





## FLYWHEELS - CRANKSHAFT - SIDE BEARINGS

Flywheel (timer or magneto side) . . . . .	48786	1
Flywheel (belt side) . . . . .	48787	1
Key (flywheel) . . . . .	QB-12	2
Nut (flywheel) . . . . .	A577	2
Cotter 3/16 x 1 1/2" . . . . .	F2657	2
Pin (starting crank) . . . . .	F4235	1
<b>CRANKSHAFT WITH BEARINGS, SLEEVE AND OIL SEAL RACE . . . . .</b>	<b>49858</b>	<b>1</b>
Crankshaft (only) . . . . .	48775	1
Bearing with Races (inboard) . . . . .	F7014	2
Bearing with Races (outboard) . . . . .	F7791	1
Sleeve (belt side) . . . . .	48776	1
Oil Seal Race (timer side) . . . . .	48777	1
*Gasket (side bearing) . . . . .	QN-15E	2
Stud (side bearing - 1-7/16") . . . . .	39530	4
Nut (side bearing) . . . . .	F1029	8
Stud (side bearing - 1-7/8") . . . . .	53342	4
<b>BEARING CASING WITH STUDS (timer side) . . . . .</b>	<b>49859</b>	<b>1</b>
Stud 5/16" x 1-1/16" . . . . .	45552	4
Hex Nut 5/16" (use F1100 L.W.) . . . . .	F1451	4
Oil Seal (timer side) . . . . .	F7001	1
Support Casting (timer) . . . . .	48783	1
Bearing Casing (belt side) . . . . .	48778	1
<b>COVER WITH OIL SEAL (bearing casing - belt side) . . . . .</b>	<b>48780</b>	<b>1</b>
Oil Seal . . . . .	F7001	1
*Gasket (cover) . . . . .	F9482	1
Hex Head Cap Screw 1/2" x 7/8" (cover) . . . . .	F4178	4
Lock Washer (cover screw) . . . . .	F3083	4
Timer Cam . . . . .	48782	1
Key (timer cam) . . . . .	F2551	1
Set Screw (hollow head) . . . . .	F2447	1
Wrench (set screw) . . . . .	F3032	1

## SIDE EXHAUST

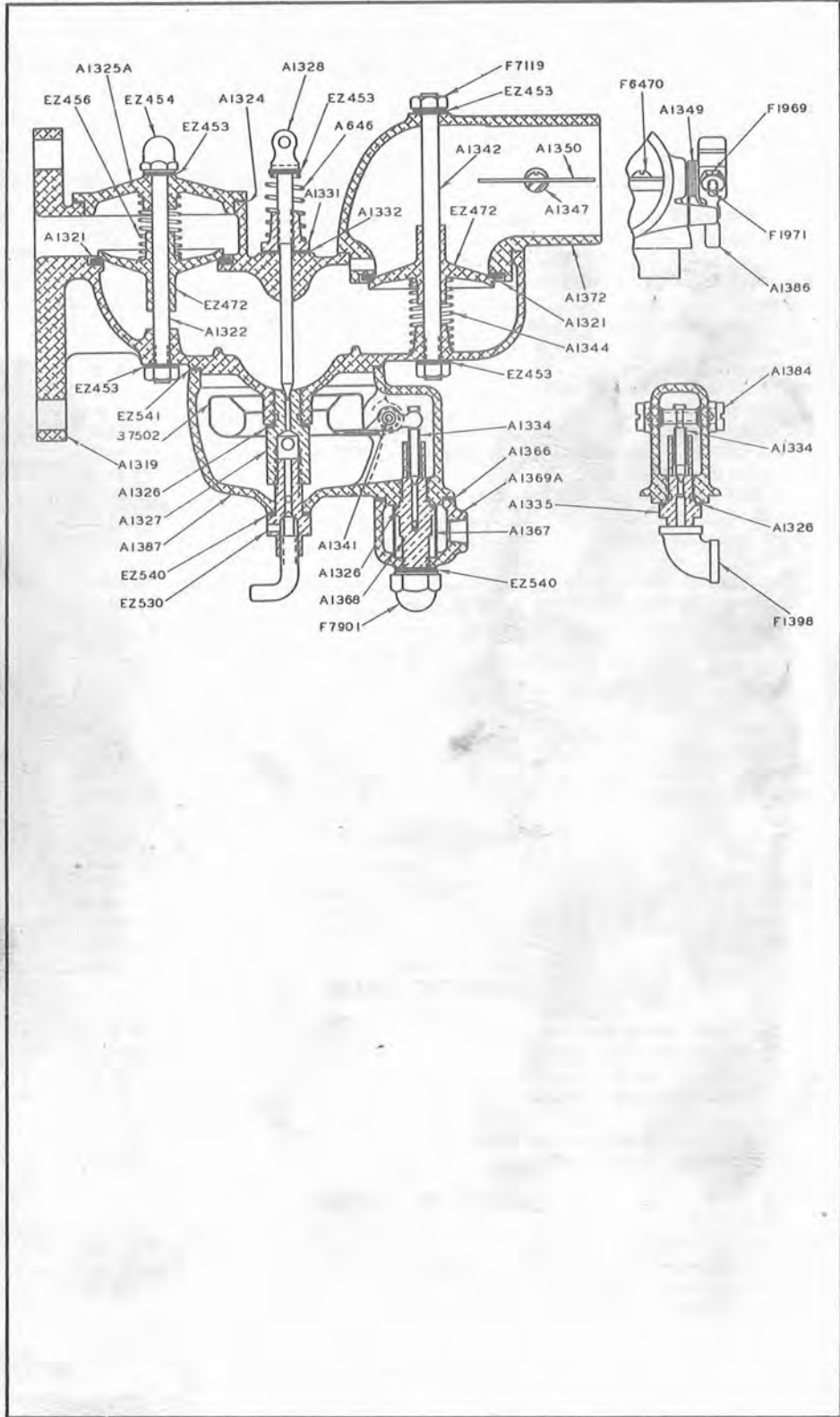
Exhaust Elbow . . . . .	48789	1
Gasket . . . . .	48790	1
Tail Pipe . . . . .	48791	1
Exhaust Tubing . . . . .	F6699	34

## STARTING CRANK

Starting Crank (with bearing) . . . . .	M36670	1
Bearing Catch (on step plate) . . . . .	M36639	1
Spacer (bearing catch - thick) . . . . .	45235	1
Spacer (bearing catch - thin) . . . . .	45236	3
Holder (starting crank - with loop) . . . . .	M35511	1
Holder (starting crank - plain) . . . . .	M24837	1

## GASKET SET 49857

For a general engine overhaul, all gaskets, the throttle valve packing, and cylinder head barrel packing can be obtained under one symbol by specifying 49857 gasket set. This set includes items in this bulletin marked with an asterisk (\*) and in the quantities shown.

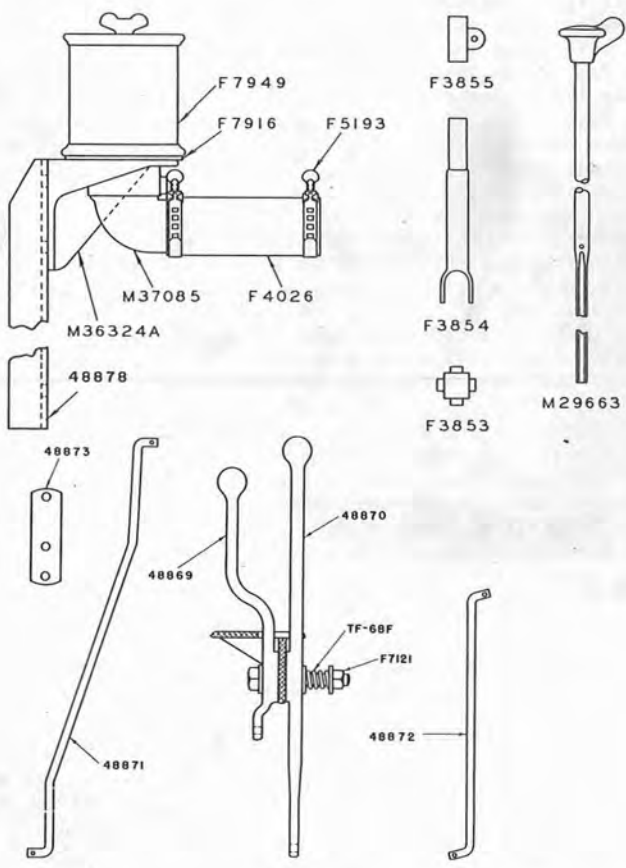
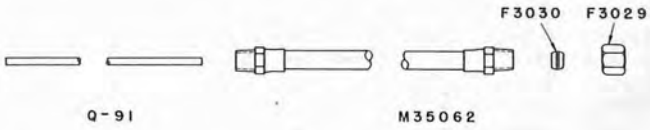
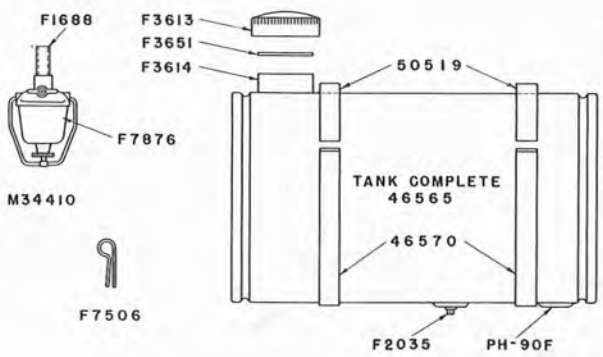


## C8 CARBURETOR

Gasket (carburetor to crankcase -- inc. in gasket set) . . .	QN-47D	1
*Gasket Set (complete for C8 carburetor) . . . . .	A1391	1
FAIRMONT C8 CARBURETOR Complete (yoke head needle valve) . .	A1316	1
CARBURETOR BODY Complete (with needle valve guide, needle valve seat, and check valve seat) . . . . .	A1390	1
CARBURETOR BODY (with check valve seat only) . . . . .	A1319	1
*Valve seat (for either check or air valve) . . . . .	A1321	1
Guide (needle valve) . . . . .	A1331	1
Gasket (needle valve guide) . . . . .	A1332	1
Cap Screw $\frac{1}{4}$ x $\frac{1}{2}$ " (needle valve guide) . . . . .	F7370	2
*Seat (needle valve) . . . . .	A1327	1
Gasket (needle valve seat) . . . . .	A1326	1
*Needle Valve (yoke head - length 3-5/8") . . . . .	A1328	1
Washer (or gasket - needle valve friction) . . . . .	EZ453	2
Lock Spring (under needle valve) . . . . .	A646	1
*Check Valve (same as air valve) . . . . .	EZ472	1
Check Valve Stem (with lower nut - length 3 $\frac{1}{4}$ ") . . . . .	A1322	1
*Spring (check valve - 1-5/16" free length) . . . . .	EZ456	1
Cover (check valve) . . . . .	A1325A	1
Gasket (check valve cover) . . . . .	A1324	1
Cap Nut (check valve stem upper) . . . . .	EZ454	1
Gasket (or washer - valve stem nuts) . . . . .	EZ453	2
FLOAT BOWL Complete (with float and strainer) . . . . .	A1371	1
FLOAT BOWL (with float valve seat) . . . . .	A1387	1
*Seat (float valve) . . . . .	A1368	1
Gasket (float valve seat) . . . . .	A1326	1
Float with Lever (metal - replaces A1336) . . . . .	37502	1
*Hinge Pin (float lever) . . . . .	A1341	1
Bearing Screw (hinge pin) . . . . .	A1384	2
*Float Valve . . . . .	A1334	1
Strainer Bowl only . . . . .	A1369A	1
Screen (strainer) . . . . .	A1367	1
Gasket (strainer bowl upper) . . . . .	A1366	1
Cap Nut (strainer bowl) . . . . .	F7901	1
Gasket (cap nut - strainer bowl lower) . . . . .	EZ540	1
Gasket (float bowl to carburetor body) . . . . .	EZ541	1
Drain Cock Complete (float bowl) . . . . .	EZ530	1
Gasket (drain cock) . . . . .	EZ540	1
AIR VALVE CAGE (with choke but less air valve) . . . . .	A1345	1
AIR VALVE CAGE (with valve seat only) . . . . .	A1372	1
*Valve Seat (for either air or check valve) . . . . .	A1321	1
Choke Shaft . . . . .	A1347	1
Choke Disc . . . . .	A1350	1
Screw (choke disc - self tapping) . . . . .	F6470	2
CHOKE ARM (with clamp screw) . . . . .	A1386	1
Machine Screw (choke arm clamp) . . . . .	F1971	1
Hex Nut (clamp screw) . . . . .	F1969	1
Lock Washer 3/16" . . . . .	F1692	1
Spring (choke arm) . . . . .	A1349	1
Air Valve Stem (with lower nut - length 4-1/8") . . . . .	A1342	1
*Air Valve (same as check valve) . . . . .	EZ472	1
*Spring (air valve - 1-5/8" free length) . . . . .	A1344	1
Hex Nut (air valve stem upper) . . . . .	F7119	1
Gasket (or washer - valve stem - lower end) . . . . .	EZ453	1

## CARBURETOR SERVICE KIT 51142

For major carburetor repair, all gaskets, valves, seats, springs and hinge pin can be obtained under one symbol by specifying 51142 C8 carburetor service kit. This kit includes items listed above marked with an asterisk (\*) and in the quantities shown.



## FUEL SYSTEM

FUEL TANK (with cap) . . . . .	46565	1
Threaded Bushing (solders in tank) . . . . .	PH-90F	2
Bayonet Catch (neck for F3613) . . . . .	F3614	1
FILLER CAP (bayonet type) . . . . .	F3613	1
Gasket (filler cap) . . . . .	F3651	1
Pipe Plug . . . . .	F2035	1
Strap (fuel tank lower) . . . . .	46570	2
Saddle (fuel tank) . . . . .	50519	2
Hex Nut 1/2" self locking . . . . .	F7119	4
Clip (supports fuel line) . . . . .	F7506	2
FUEL STRAINER WITH NIPPLE . . . . .	M34410	1
Nipple 1/8 x 3/8" brass . . . . .	F1688	1
Strainer Bowl (glass) . . . . .	F7876	1
Gasket (strainer bowl) . . . . .	F7877	1
Screen (strainer) . . . . .	F8692	1
Street Elbow 1/8" (flexible fuel line to strainer) . . . . .	F6584	1
FLEXIBLE FUEL LINE - 7" (with sleeve and nut) . . . . .	M35062	2
Compression Nut . . . . .	F3029	3
Compression Sleeve . . . . .	F3030	3
Fuel Pipe (two flexible lines) . . . . .	Q-91	1

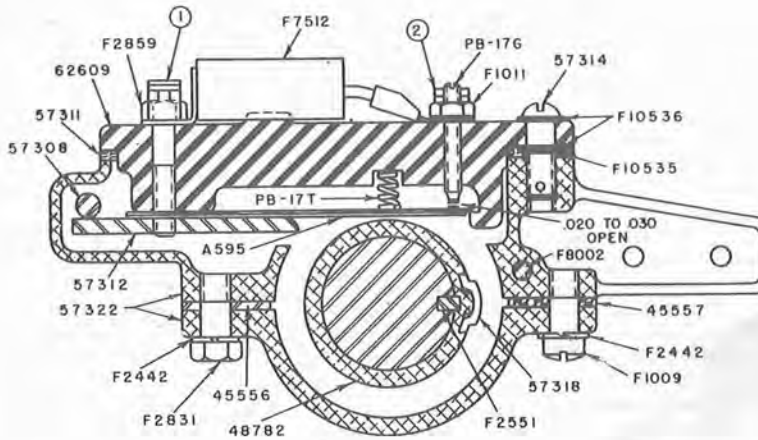
## AIR CLEANER

SCREEN ASSEMBLY WITH COVER (includes wing nut and stem) . . . . .	F7949	1
Top only (cover) . . . . .	F8036	1
Wing Nut only . . . . .	F8037	1
Stem only (threaded) . . . . .	F8038	1
Name Plate only (washer) . . . . .	F8039	1
Mounting Bracket (screen assembly) . . . . .	M36324A	1
Gasket (screen to bracket) . . . . .	F7916	1
Support Angle (bracket) . . . . .	48878	1
ELBOW (below cleaner) . . . . .	M37085	1
Set Screw 3/8 x 1/4" dog point . . . . .	F3366	1
Hex Half Nut 3/8" . . . . .	F1040	1
Hose - 2" diameter (specify length required) . . . . .	F4026	2 1/2"
Hose Clamp . . . . .	F5193	2

## CONTROLS

Throttle Lever . . . . .	48869	1
Timer Control Lever . . . . .	48870	1
Spring (throttle lever friction) . . . . .	TF-68F	1
Hex Nut 3/8" self locking . . . . .	F7121	1
Throttle Rod - 36-7/8" . . . . .	48871	1
Timer Rod - 26-1/8" . . . . .	48872	1
Timer Extension Strip . . . . .	48873	1
CONTROL SERVICE GROUP (carburetor) . . . . .	M29829	1
Universal Spider (carburetor control) . . . . .	F3853	1
Adjusting Rod Sleeve . . . . .	F3854	1
Choke Sleeve . . . . .	F3855	1
Adjusting Rod (with knob) . . . . .	M29663	1
Choke Wire (specify length) . . . . .	F3054	9"
Wrot Washer (choke sleeve) . . . . .	F6537	1

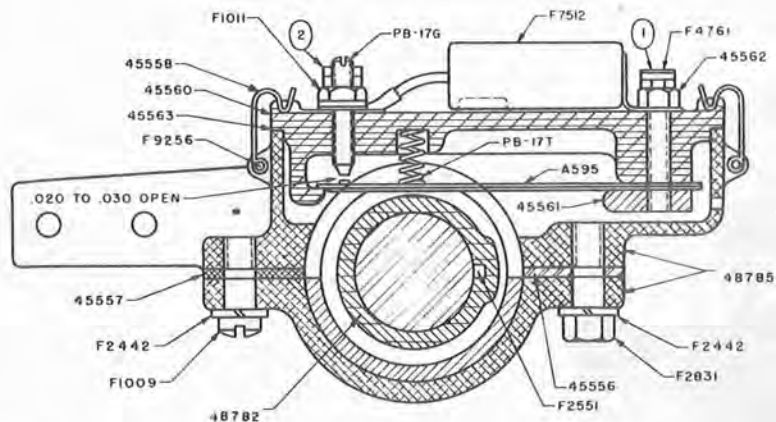
ADJUSTABLE WEATHERSEALD TIMER



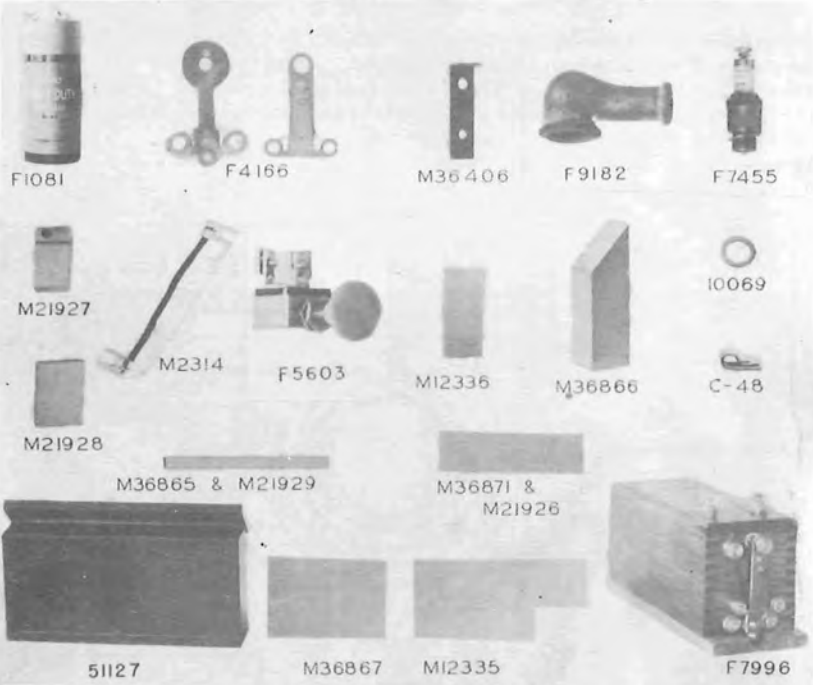
WEATHERSEALD TIMER COMPLETE (adjustable) . . . . .	48784	1
MOUNTING CASTING (complete - halves not sold separately).	57322	1
Spacer (steel - lower - casting halves) . . . . .	45556	1
Spacer (cork - upper - casting halves) . . . . .	45557	1
Cap Screw 5/16 x 7/8" hex hd. . . . .	F2831	1
Clamp Screw 5/16 x 3/4" fillister hd. . . . .	F1009	1
Lock Washer 5/16" (light) . . . . .	F2442	2
Stop Pin 7/32 x 1/2" . . . . .	F8002	1
Pivot Pin 1/4 x 1-1/8" (grounds timer to body) . . . . .	57308	1
TIMER BODY COMPLETE (with blade, points and condenser). .	57309	1
Body (with gasket) . . . . .	62609	1
BLADE AND SCREW (service set) . . . . .	51140	1
Timer Blade (with point) . . . . .	A595	1
Adjusting Screw (with point) . . . . .	PB-17G	1
Spring (timer blade - spiral) . . . . .	PB-17T	1
Cap Screw 1/4 x 1-3/8" hex hd. . . . .	F2859	1
Clamp Block (timer blade) . . . . .	57312	1
Connector . . . . .	F4761	2
Hex Nut #12-24 . . . . .	F1011	1
Ignition Condenser . . . . .	F7512	1
Arc Adjusting Screw . . . . .	57314	1
Retaining Ring (adjusting screw) . . . . .	F10535	1
Washer 1/4" (thin) . . . . .	F10536	2
Gasket (timer body to mounting casting) . . . . .	57311	1
<b>NOTE</b> --When applying a new gasket to timer body moisten adhesive side of gasket with gasoline, then press into place.		
TIMER CAM (with wiping block) . . . . .	48782	1
Wiping Block . . . . .	57318	1
Key (timer cam) . . . . .	F2551	1

## WEATHERSEALD TIMER (NON-ADJUSTABLE)

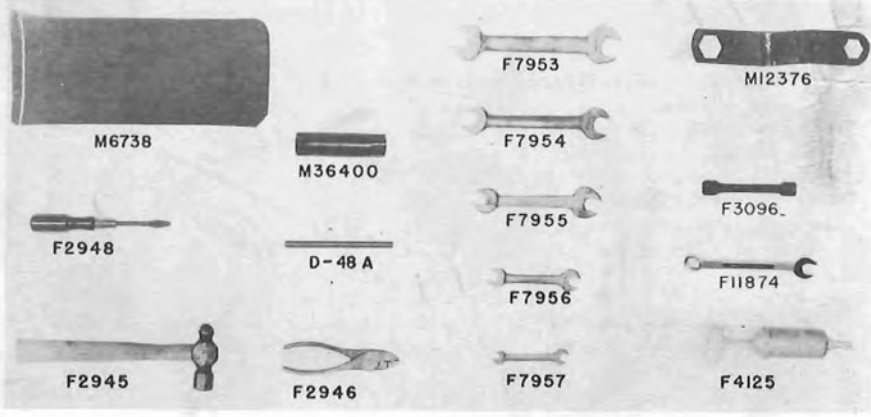
**NOTE**--Weatherseald timers complete and mounting castings as furnished on engines below 88480 are no longer supplied. When required order complete adjustable timer as listed on page 32. One piece cam is also replaced by cam with renewable wiping block. Other repair parts for timers on engines below 88480 are available as listed below.



Spacer Steel (lower - casting halves) . . . . .	45556	1
Spacer Cork (upper - casting halves) . . . . .	45557	1
Cap Screw 5/16" x 7/8" hex head . . . . .	F2831	1
Clamp Screw 5/16" x 3/4" . . . . .	F1009	1
Lock Washer 5/16" special . . . . .	F2442	2
Spring Clip . . . . .	45558	2
Pins . . . . .	F9256	2
Stop Pin . . . . .	F8002	1
<b>TIMER BODY COMPLETE (with blade, points and condenser) . . .</b>	<b>45559</b>	<b>1</b>
Body (with gasket) . . . . .	45560	1
<b>BLADE AND SCREW (service set) . . . . .</b>	<b>51140</b>	<b>1</b>
Timer Blade (with point) . . . . .	A595	1
Adjusting Screw (with point) . . . . .	PB-17G	1
Spring (timer blade - spiral) . . . . .	PB-17T	1
Screw (timer blade clamp) . . . . .	45562	1
Clamp Nut (timer blade) . . . . .	45561	1
Ground Clip . . . . .	49940	1
Connector . . . . .	F4761	2
Nut (timer adjusting screw) . . . . .	F1011	1
Ignition Condenser Complete . . . . .	F7512	1
Gasket (timer body to mounting casting) . . . . .	45563	1
<b>TIMER CAM (with wiping block) . . . . .</b>	<b>48782</b>	<b>1</b>
Wiping Block . . . . .	57318	1
Key (timer cam) . . . . .	F2551	1
Set Screw (used with one piece cam only) . . . . .	F2447	1



F1081      F4166      M36406      F9182      F7455  
 M21927      M2314      F5603      M12336      M36866      10069  
 M21928      M36865 & M21929      M36871 & M21926  
 51127      M36867      M12335      F7996



M6738      M36400      F7953      MI2376  
 F2948      D-48 A      F7954      F3096  
 F2945      F2946      F7955      F11874  
 F7956      F7957      F4125

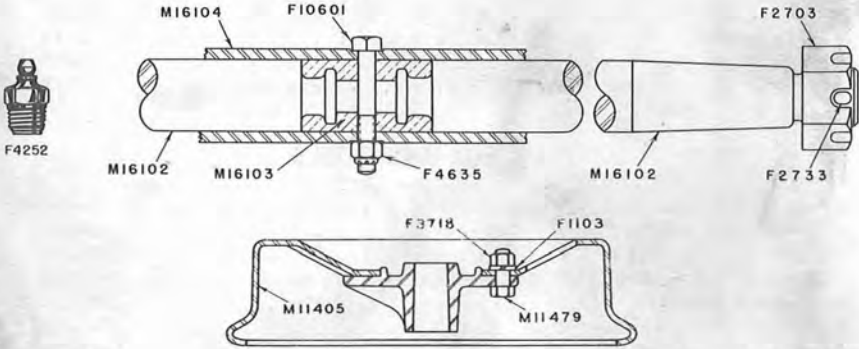
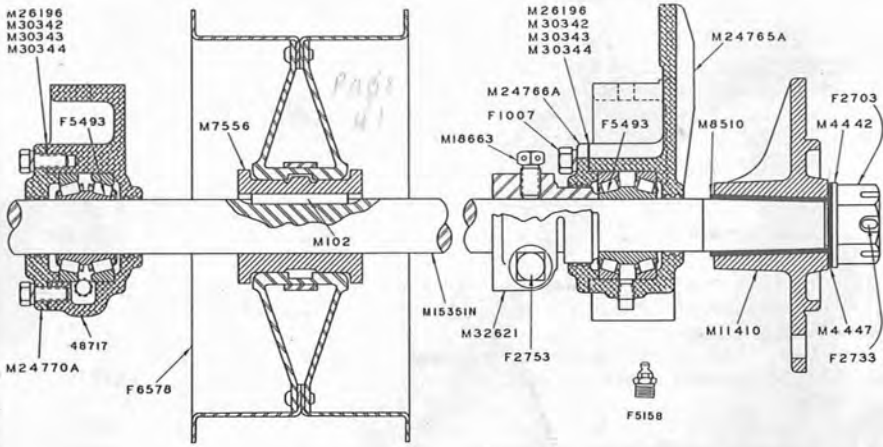


### BATTERY IGNITION EQUIPMENT

Battery Box (with mounting bracket) . . . . .	51127	1
Insulating Liner (side - battery box) . . . . .	M12335	1
Insulating Liner (end - battery box) . . . . .	M12336	1
Insulating Liner (bottom - short - 10-1/4") . . . . .	M36871	1
Insulating Liner (side - short - 10-1/4") . . . . .	M36867	1
Rubber Bushing (protects wires) . . . . .	10069	1
Spark Coil . . . . .	F7996	1
Spacer Block (coil) . . . . .	M36866	1
Spacer (above batteries) . . . . .	M36865	1
Dry Cell . . . . .	F1081	4
Vibrator (both points included) . . . . .	F4166	1
Connector (battery) . . . . .	M2314	3
Spark Plug - 18 mm . . . . .	F7455	1
Rubber Cap (high tension terminal - coil) . . . . .	F9182	1
WIRE WITH TERMINALS (spark plug) . . . . .	M16492	1
Terminal . . . . .	F7926	2
Switch . . . . .	F5603	1
Wiring Assembly (in braided covering) . . . . .	48876	1
Wire (coil to battery - 11") . . . . .	M22664	1
Support Clip (timer wires - ill. M36406) . . . . .	48877	1
Cable Clip (fibre) . . . . .	C-48	8
Hi Tension Wire (plain, no terminals - specify length req.) . . . . .	F1402	
Primary Wire (plain, no terminals - specify length req.) . . . . .	F2958	

### TOOL BOX AND TOOLS

Tool Box (not illustrated) . . . . .	48640	1
Support Angle (tool box) . . . . .	48880	1
Grease Gun . . . . .	F4125	1
Box and Open End Wrench 5/8" (water jacket stud nuts) . . . . .	F11874	1
Wrench (spark plug) . . . . .	M36400	1
Handle (spark plug wrench) . . . . .	D-48A	1
Demountable Wheel Wrench . . . . .	M12376	1
Wrench (hollow head set screw - timer cam) . . . . .	F3032	1
TOOL KIT (in bag) . . . . .	M36398	1
Draw String Bag . . . . .	M6738	1
Ball Pein Hammer . . . . .	F2945	1
Pliers - 6" . . . . .	F2946	1
Screw Driver - 3" . . . . .	F2948	1
Connecting Rod Socket Wrench . . . . .	F3096	1
End Wrench 7/16 & 3/8" openings . . . . .	F7957	1
End Wrench 9/16 & 1/2" openings . . . . .	F7956	1
End Wrench 3/4 & 5/8" openings . . . . .	F7955	1
End Wrench 7/8 & 13/16" openings . . . . .	F7954	1
End Wrench 15/16 & 1" openings . . . . .	F7953	1
Rust Preventative . . . . .	41039	1

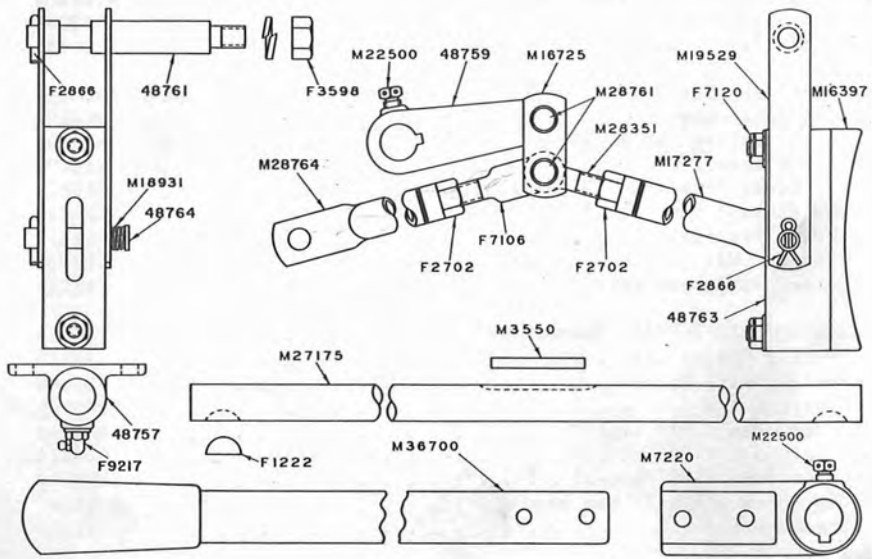


### AXLES - AXLE BEARINGS - THRUST COLLARS

DRIVE AXLE 1-7/16" (with nuts and cotters) . . . . .	M15351N	1
Axle End Nut . . . . .	F2703	2
Cotter (axle end nut) . . . . .	F2733	2
DIFFERENTIAL AXLE 1-7/16" (with nuts and cotters) . . . . .	M35798N	1
Axle Half only . . . . .	M16102	2
Split Bushing (both halves) . . . . .	M16103	1
Axle Sleeve . . . . .	M16104	1
Cap Screw 5/16 x 2-1/2" (axle sleeve center) . . . . .	F10601	1
Hex Elastic Stop Nut 5/16" . . . . .	F4635	1
Grease Fitting . . . . .	F4252	1
Axle End Nut . . . . .	F2703	2
Cotter (axle end nut) . . . . .	F2733	2
CENTER BEARING 1-7/16" (assembled) . . . . .	48716	1
Bearing Casing only . . . . .	48717	1
Bearing with Races . . . . .	F5493	1
Casing Cover . . . . .	M24770A	1
Cover Shim (.010 steel) . . . . .	M30342	1
Cover Shim (.007 steel) . . . . .	M30343	3
Cover Shim (.005 steel) . . . . .	M30344	4
Cap Screw 3/8 x 1" hex head . . . . .	F1007	4
Grease Fitting . . . . .	F5158	1
MAIN AXLE BEARING 1-7/16" (assembled) . . . . .	48718	4
Bearing Casing only . . . . .	M24765A	4
Bearing with Races . . . . .	F5493	4
Casing Cover . . . . .	M24766A	4
Cover Shim (.010 steel) . . . . .	M30342	4
Cover Shim (.007 steel) . . . . .	M30343	12
Cover Shim (.005 steel) . . . . .	M30344	16
Cap Screw 3/8 x 1" hex head . . . . .	F1007	16
Grease Fitting . . . . .	F5158	8
THRUST COLLAR 1-7/16" (assembled) . . . . .	M32621	4
Clamp Bolt (thrust collar) . . . . .	F2753	4
Hex Half Nut 1/2" . . . . .	F2737	4
Set Screw (drilled head) . . . . .	M18663	4
Lock Wire (per foot) . . . . .	F3054	26"

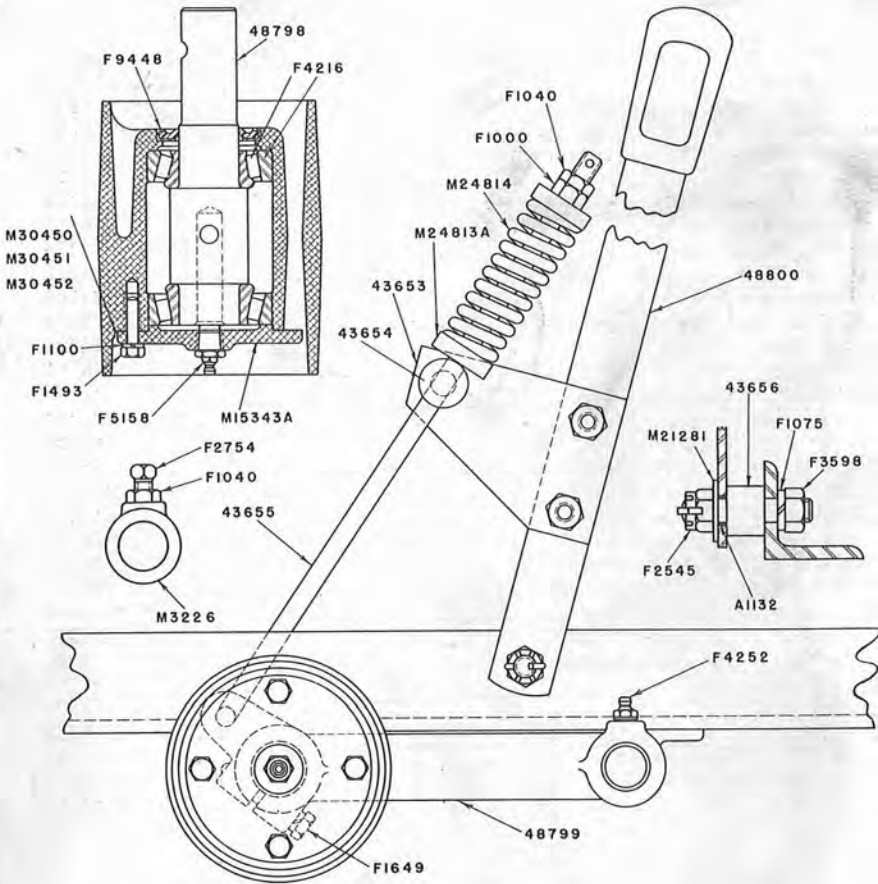
### WHEELS - INSULATION

16" x 1/4" x 4-1/2" DEMOUNTABLE WHEEL (taper bored) . . . . .	M7677D	4
Hub only (taper bored) . . . . .	M11410	4
16" x 1/4" x 4-1/2" Demountable tire only . . . . .	M11405	4
BOLT SET (8 each hub bolts, nuts, and lock washers) . . . . .	M12177	4
Hub Bolt (alloy steel) . . . . .	M11479	32
Hex Nut 5/8" S.A.E. . . . .	F3718	32
Lock Washer 5/8" . . . . .	F1103	32
INSULATION SET 1-7/16" (3-piece) . . . . .	M8509	4
Insulating Sleeve . . . . .	M8510	4
Insulating Washer . . . . .	M4447	4
Steel Washer . . . . .	M4442	4



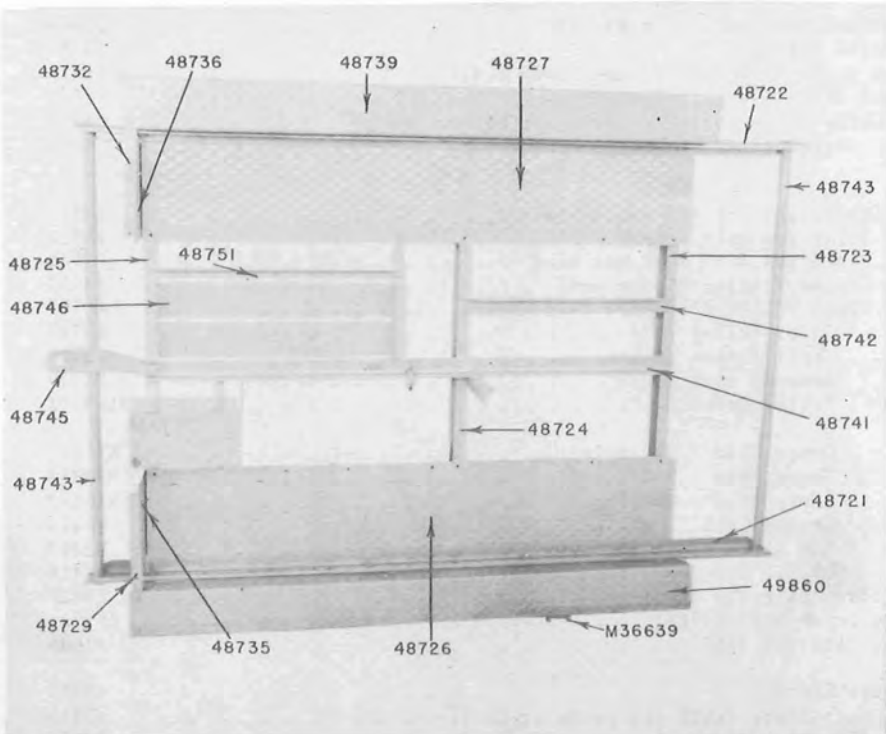
## BRAKE

Brake Lever - 34-1/2" . . . . .	M36700	1
Socket (brake lever) . . . . .	M7220	1
Bolt 3/8 x 1" (brake lever to socket) . . . . .	M36601	2
Hex Slotted Nut 3/8" . . . . .	F2493	2
Key (brake lever socket) . . . . .	M3550	1
Set Screw 3/8 x 5/8" . . . . .	M22500	2
Lock Wire (specify length required) . . . . .	F3054	9'
Brake Shaft . . . . .	M27175	1
BEARING (brake shaft - with grease fitting) . . . . .	48757	4
Grease Fitting . . . . .	F9217	4
End Arm (brake shaft) . . . . .	48759	2
Key (end arm) . . . . .	F1222	2
Set Screw 3/8 x 5/8" . . . . .	M22500	2
Lock Wire (set screw - per ft.) . . . . .	F3054	16'
Toggle Link . . . . .	M16725	4
Pin (toggle link - 1/2 x 1-1/2") . . . . .	M28761	4
<del>TOGGLE ARM (with yoke) . . . . .</del>	<del>48760</del>	<del>2</del>
Body only (toggle arm) . . . . .	M28764	2
Yoke (toggle arm) . . . . .	F7106	2
Jam Nut 1/2" - 12 thread . . . . .	F2702	2
<del>TOGGLE ARM (with eye bolt) . . . . .</del>	<del>M36277</del>	<del>2</del>
Body only (toggle arm) . . . . .	M17277	2
Eye Bolt (toggle arm) . . . . .	M28351	2
Jam Nut 1/2" - 12 thread . . . . .	F2702	2
BRAKE SHOE WITH LINER (assembled) . . . . .	48762	4
Brake Shoe (block only) . . . . .	48763	4
Liner . . . . .	M16397	4
Hex Nut 5/16" self locking . . . . .	F7120	8
Pivot Stud . . . . .	48761	4
Hex Nut 1/2" . . . . .	F3598	4
Shoe Hanger . . . . .	M19529	8
Hanger Pin (brake shoe) . . . . .	48764	4
Spring (hanger pin) . . . . .	M18931	4
Cotter 3/16 x 1" . . . . .	F2866	12



## BELT - PULLEYS - IDLER

Endless Cord Belt 4" x 91-1/2" . . . . .	F7978	1
Engine Pulley 5" . . . . .	QB-84	1
Cap Screw 7/16" x 1 1/4" (use F2326 L.W.) . . . . .	F2879	3
AXLE PULLEY (with bolts - 8") . . . . .	F6578	1
Bushing (axle pulley - cut apart before using) . . . . .	M7556	1
Key (axle pulley bushing) . . . . .	M102	1
IDLER PULLEY AND ARM (assembled) . . . . .	48795	1
Idler Arm only . . . . .	48799	1
Cap Screw 3/8" x 2" hex head . . . . .	F1649	1
Grease Fitting (idler arm) . . . . .	F4252	1
IDLER PULLEY AND SHAFT (assembled) . . . . .	48796	1
Idler Pulley only . . . . .	48797	1
Shaft (idler pulley) . . . . .	48798	1
Bearing with Races . . . . .	F4216	2
Pulley Cover . . . . .	M15343A	1
Cover Shim (.010 steel) . . . . .	M30450	1
Cover Shim (.007 steel) . . . . .	M30451	2
Cover Shim (.005 steel) . . . . .	M30452	2
Grease Seal . . . . .	F9448	1
Cap Screw 5/16" x 1" hex head . . . . .	F1493	4
Grease Fitting . . . . .	F5158	1
Collar (on brake shaft) . . . . .	M3226	2
Set Screw 3/8" x 7/8" . . . . .	F2754	2
Hex Half Nut 3/8" . . . . .	F1040	2
Idler Lever . . . . .	48800	1
Support Plate (pull rod guide stud) . . . . .	43653	1
Stud (pull rod guide) . . . . .	43654	1
Pullrod (idler) . . . . .	43655	1
Hex Nut 3/8" . . . . .	F1000	1
Hex Half Nut 3/8" . . . . .	F1040	3
Spring (pullrod) . . . . .	M24814	1
Spring Seat . . . . .	M24813A	2
Stud (idler lever pivot) . . . . .	43656	1
Spacer (idler lever and guide stud) . . . . .	A1132	2
Washer (idler lever and guide stud) . . . . .	M21281	2
Hex Slotted Nut - 1/2" . . . . .	F2545	2
Hex Nut 1/2" (idler lever stud) . . . . .	F3598	1
Lock Washer 1/2" (idler lever stud) . . . . .	F1075	1



48732 48736 48739 48727 48722 48743 48725 48751 48746 48745 48743 48729 48735 48726 M36639 49860 48721 48741 48742 48723



## COMPLETE CAR LESS ENGINE

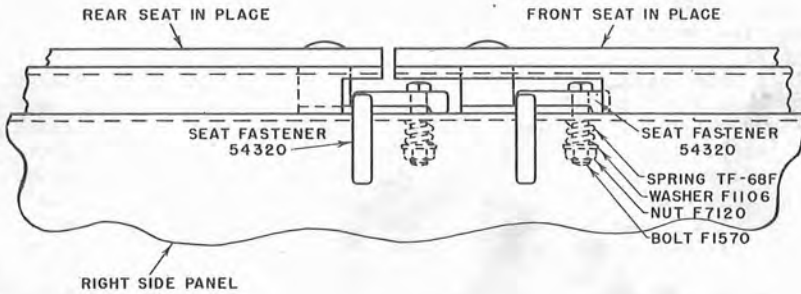
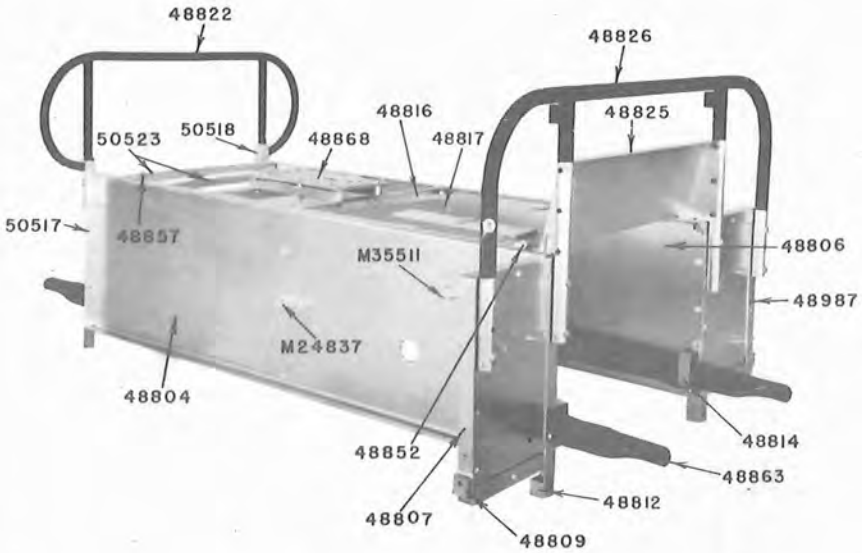
For cars that are in need of extensive repairs on account of damage or wear, we offer the S2 series H car complete less engine, coil and batteries. Specify SF2 series H motor car frame complete to obtain this group.

### FRAME AND DECK

FRAME AND DECK (assembled) . . . . .	48720	1
Axle Bearing Sill (right) . . . . .	48721	1
Axle Bearing Sill (left) . . . . .	48722	1
Cross Channel (front) . . . . .	48723	1
Cross Channel (middle) . . . . .	48724	1
Cross Channel (rear) . . . . .	48725	1
Deck (right) . . . . .	48726	1
Deck (left) . . . . .	48727	1
Cap Screw 1/2 x 1-1/4" Hex Head . . . . .	F7273	10
Engine Sill (right - long) . . . . .	48741	1
Engine Sill (left - short) . . . . .	48742	1
End Plate (tool tray - right rear) . . . . .	48735	1
End Plate (tool tray - left rear) . . . . .	48736	1
Spacer (rear end plate) . . . . .	46023	4
STEP PLATE RIGHT (with crank catch and spacers) . . . . .	49860	1
Bearing Catch . . . . .	M36639	1
Spacer (bearing catch - thick) . . . . .	45235	1
Spacer (bearing catch - thin) . . . . .	45236	3
Step Plate (left) . . . . .	48739	1
Support Angle (step plate - left rear) . . . . .	48732	1
Support Angle (step plate - right rear) . . . . .	48729	1
Bracket (step plate support) . . . . .	48737	6
Lift Pipe (with clip) . . . . .	48743	2
Draw Bar . . . . .	48745	1
U-Bolt (draw bar) . . . . .	M24796	1
Cap Screw 1/2 x 2-1/4" . . . . .	F5855	1
Lunch Bucket Tray (complete) . . . . .	48746	1
Side Angle (lunch bucket tray) . . . . .	48751	1
Bevel Washer 1/2" . . . . .	F3148	11
Bevel Washer 3/8" . . . . .	F3495	8
Hex Nut 3/8" (self locking) . . . . .	F7121	3
Hex Nut 5/16" (self locking) . . . . .	F7120	1
Rail Skid (with brace - right) . . . . .	48752	1
Rail Skid (with brace - left) . . . . .	48755	1
Set Off Skid (right) . . . . .	M34917	1
Set Off Skid (left) . . . . .	M34916	1

### ENGINE - MOUNTING

ENGINE Complete . . . . .	RQ-D	1
Mounting Strip (engine) . . . . .	46252	2
Cap Screw 7/16 x 2-1/2" hex head SAE . . . . .	44543	4
Hex Nut 7/16" SAE . . . . .	F3079	4
Lock Washer 7/16" . . . . .	F1291	4



## HOUSING - LIFT HANDLES

NOTE--Cars numbered 193528 and higher are equipped with late type seat fasteners which can be applied to earlier cars by ordering group 54565. Application drawing and instructions SD #131, included with each group.

Safety Rail (front) . . . . .	48826	1
HOUSING (assembled - less seat top and lift handles) . . . . .	48802	1
Safety Rail (rear) . . . . .	48822	1
Side Panel (right) . . . . .	48804	1
Side Panel (left) . . . . .	48806	1
Housing Support with Panel (right front) . . . . .	48807	1
Housing Support with Panel (left front) . . . . .	48987	1
Housing Support (center) . . . . .	48817	2
Housing Support (left rear) . . . . .	50518	1
Housing Support (right rear) . . . . .	50517	1
Support Angle (lever guide - front and rear) . . . . .	48816	2
Support Cleat (fuel tank) . . . . .	50523	2
Guide (lift handle - front and rear) . . . . .	48814	4
Strap (front and rear lift handle guides) . . . . .	48815	4
Guide (lift handle - center) . . . . .	48818	2
Seat Fastener (left) . . . . .	54316	2
Seat Fastener (right) . . . . .	54320	2
Spring (seat fastener) . . . . .	TF-68F	4
Hood (cooling condenser) . . . . .	48825	1
Control Panel . . . . .	48868	1
Spacer (front support frame - axle bearing sill) . . . . .	48809	2
Spacer (front support frame - front cross channel) . . . . .	48812	2
Spacer (front housing support to deck) . . . . .	M17061	4
HOUSING SEAT FRONT (assembled) . . . . .	48832	1
Side Angle (right) . . . . .	48833	1
Side Angle (left) . . . . .	48834	1
Seat Board . . . . .	48835	1
HOUSING SEAT REAR (assembled) . . . . .	48838	1
Side Angle (right) . . . . .	48839	1
Side Angle (left) . . . . .	48840	1
Seat Board . . . . .	48841	1
Guide Clip . . . . .	49693	4
Cleat (hinge end) . . . . .	48836	2
Cleat (fastener end) . . . . .	48837	2
Hex Nut 1/4" self locking . . . . .	F7119	26
Fastener Plate . . . . .	54319	4
Hinge (housing seat - right) . . . . .	48852	2
Hinge (housing seat - left) . . . . .	48855	2
Pin (housing seat hinge) . . . . .	48856	4
SEAT SUPPORT COMPLETE . . . . .	51666	2
Support Arm (short - seat top) . . . . .	48858	2
Support Arm with stop (seat top) . . . . .	48859	2
Bearing (support arm bolts) . . . . .	48862	6
Bracket (seat support arm) . . . . .	48857	2
Holder (starting crank - with loop) . . . . .	M35511	1
Holder (starting crank - plain) . . . . .	M24837	1
EXTENSION LIFT HANDLE (complete) . . . . .	48863	2
Reinforcing Strip (bottom - steel) . . . . .	48865	2
Wood Screw No. 14 x 1-1/4" recessed head . . . . .	F7242	40
Cap Screw (flat head) . . . . .	F3516	2
Stop Nut . . . . .	46559	2
Instruction Plate . . . . .	F3011	1
Name Plate . . . . .	F7244	1
Safety First Plate . . . . .	F3132	1
Timer Lever Indicating Plate . . . . .	F7979	1
Blank Number Plate . . . . .	F9231	

### ACCESSORIES

The following standard accessories may be applied to S2 series H cars. When ordering for field installations, be sure to give factory car and engine serial numbers. Also shown are some tools that will simplify maintenance work.

#### ALUMINUM WINDSHIELD 51352

Includes mounting parts complete for installation. All bolts, nuts and lock washers are CADMIUM plated to resist rusting.

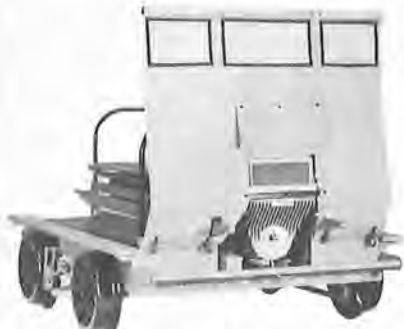


Lower Half . . . . .	50918
Upper Half (with windows). . . . .	49709
Window (14-1/2 x 28") . . . . .	49717
Rubber Moulding (long) . . . . .	49718
Rubber Moulding (short) . . . . .	49719
Filler Strip (per ft.) . . . . .	F9539
Canvas Weather Strip . . . . .	49720
Hinge . . . . .	49721
Machine Screw #10-24 x 7/16" . . . . .	F9540
Lock Washer 3/16" . . . . .	F9541
Hex Nut #10-24 . . . . .	F9542
Cap Nut #10-24 brass . . . . .	F9543
Adjusting Bar . . . . .	55995
Cap Screw 5/16 x 1-1/4" . . . . .	F9715
Washer 5/16" . . . . .	F9549
Hex Nut 5/16" . . . . .	F9550
Spacer Washer (top) . . . . .	55997
Spacer Washer (bottom) . . . . .	55998
Support Bracket (right). . . . .	50933
Support Bracket (left) . . . . .	50934
Adapter Strip . . . . .	50939
Stove Bolt 1/4 x 5/8" rd. hd. . . . .	F9714

Lock Washer 1/4" . . . . .	F9535
Spacer Tube . . . . .	50940
Mounting Bracket (upper left) . . . . .	50941
Mounting Bracket (upper right) . . . . .	51779
Mounting Bracket (lower left) . . . . .	51781
Mounting Bracket (lower right) . . . . .	50942
Machine Bolt 5/16 x 1" . . . . .	F9656
Machine Bolt 5/16 x 1-1/4" . . . . .	F9715
Machine Bolt 5/16 x 3/4" . . . . .	F9545
Lock Washer 5/16" . . . . .	F9546
Hex Nut 5/16" . . . . .	F9547
Machine Bolt 1/4 x 2" . . . . .	F9659
Hex Nut 1/4" . . . . .	F9536
Name Plate . . . . .	52400

#### WINDSHIELD WITH WINDOWS 49189

Adequate bad weather protection. Deflects wind away from operator. Windows allow full vision; easily applied in field.



Curtain (with windows) . . . . .	49190
Window (8-3/4 x 25-3/4") . . . . .	F4899
Window (8-3/4 x 9-1/2") . . . . .	F4899
Top Cross Bar . . . . .	49191
Top Socket . . . . .	M16415
Vertical Post . . . . .	42022
Bottom Cross Bar . . . . .	M19964

#### WINDSHIELD PLAIN 49187

Full width of car, protects riders at minimum cost. Easily applied in field. Strong materials, withstands wintry gales.

Curtain . . . . .	49188
Top Cross Bar . . . . .	49191
Top Socket . . . . .	M16415
Vertical Post . . . . .	44960
Bottom Cross Bar . . . . .	M19964



**MOTOR CAR TOP 63960**

Combination of top and aluminum windshield 51352 gives durable, all weather protection to motor car operators and passengers.

Aluminum top is bolted to top of windshield and a rear support which clamps on rear safety rail. Long gussets replace adjustable arms on windshield side frame.

Roof Unit . . . . .	64424
Support Pipe (rear). . . . .	64421
Saddle . . . . .	64709
U-Bolt . . . . .	64708
Lock Washer 5/16" . . . . .	P9546
Hex Nut 5/16" . . . . .	P9547
Mtg. Brkt. (rear suppt. to roof)	64423
Rubber Insulator (wind- shield to roof) . . . . .	F11486
Gusset (windshield side frame)	64616
Cap Screw 5/16 x 3/4" hex hd.	F9827

**RAIL SWEEPS 51002 BLADE TYPE**

Heavy duty type, hinged. All parts are steel except blade proper. Adjustable for rail clearance. Gives full protection due to blade width. Long lived. Blade easily renewed.

Rail Sweep - right . . . . .	51047
Rail Sweep - left . . . . .	51050
Blade (belting) . . . . .	M23956
Clamp Strip . . . . .	M23957
Rail Sweep Stop - left . . . . .	51052
Rail Sweep Stop - right. . . . .	51053
Hinge Bolt . . . . .	M21445
Spring . . . . .	QB-61C
Spring Seat . . . . .	M30435A
Spacer . . . . .	41726

**RAIL SWEEPS 51136 HOSE TYPE**

Late air hose type. Hinged to clear rail when car is set on or off the track.

Hose Clamp Strap - R. . . . .	51324
Hose Clamp Strap - L. . . . .	51327
Filler Block . . . . .	51325
Stop Clip - right . . . . .	51053
Stop Clip - left . . . . .	51052
Hinge Bolt . . . . .	M21445
Spacer . . . . .	41726
Spring . . . . .	QB-61C
Spring Seat . . . . .	M30435A



**CAB TOP 50520 (STEEL)**

CAB FRONT COMPLETE . . . . .	51392
Cab Front (less windows).	51393
Window Glass 20 x 26" . .	51405
Rubber Moulding (window).	51406
Condenser Hood . . . . .	51407
Rubber Seal - cond. hood top	51408
Rubber Seal - cond. hood side	51409
Ventilator Cover . . . . .	54022
Cover Guide (ventilator).	53576
Lift Pipe . . . . .	53370
Support (lift pipe) . . . . .	53372
Spacer (rubber) . . . . .	51410
Rubber Seal . . . . .	51411
Roof Unit Complete . . . . .	51412
Gusset (right) . . . . .	51426
Gusset (left) . . . . .	51427
Support Pipe (rear) . . . . .	51428
Clamp Bar . . . . .	51431
Clamp Strap . . . . .	51434
REAR SUPPORT . . . . .	51435
Support Casting . . . . .	51436
Rubber Mounting . . . . .	F9695
Spacer . . . . .	51437
Retaining Ring . . . . .	F9696

**SIDE PANELS (PR.) 51524**

SIDE PANEL COMPLETE - R. . .	51525
Side Panel only - R. . .	51526
SIDE PANEL COMPLETE - L. . .	51532
Side Panel only - L. . .	51533
Window Glass 8 x 12" . .	51530
Rubber Moulding (window).	51531
Rubber Mounting Stud (lower)	F10059
Rubber Seal (side panel top)	51537

**NARROW SIDE CURTAINS (PR.) 51520**

Used only on cars with side panels.

Slide Rod (side curtains) . .	51500
Support Angle Brkt. (upper).	51521
Support Post (right rear) . .	51550
Support Post (left rear) . .	51551
Support Angle (lower right).	51511
Support Angle (lower left) . .	51512
Spring . . . . .	M1245
Curtain Ring . . . . .	43901
SIDE CURTAIN COMPLETE . . .	51522
Lock Bolt . . . . .	51515
Handle (curtain bar) . . .	F9701
Curtain Bar . . . . .	51516

**NARROW SIDE CURTAINS AND REAR WINDOW WITH CURTAIN 51519**

Made up of groups 51520 and 50522 but has only one set of corner support posts.

**REAR CURTAIN AND WINDOW 50522**

REAR WINDOW . . . . .	51501
Window Glass 8 x 26" . .	51507
Rubber Moulding (window).	51508
Support Post (right rear) . .	51550
Support Post (left rear) . .	51551
Support Angle (lower right rear)	51511
Support Angle (lower left rear)	51512
Spring . . . . .	M1245
Rear Curtain . . . . .	51517
Curtain Strip . . . . .	51518
Stud (lift dot fastener) . .	F7748
Eyelet (lift dot fastener) . .	F7746
Clinch Plate (lift dot fast.)	F7747
Curtain Bar . . . . .	M30088

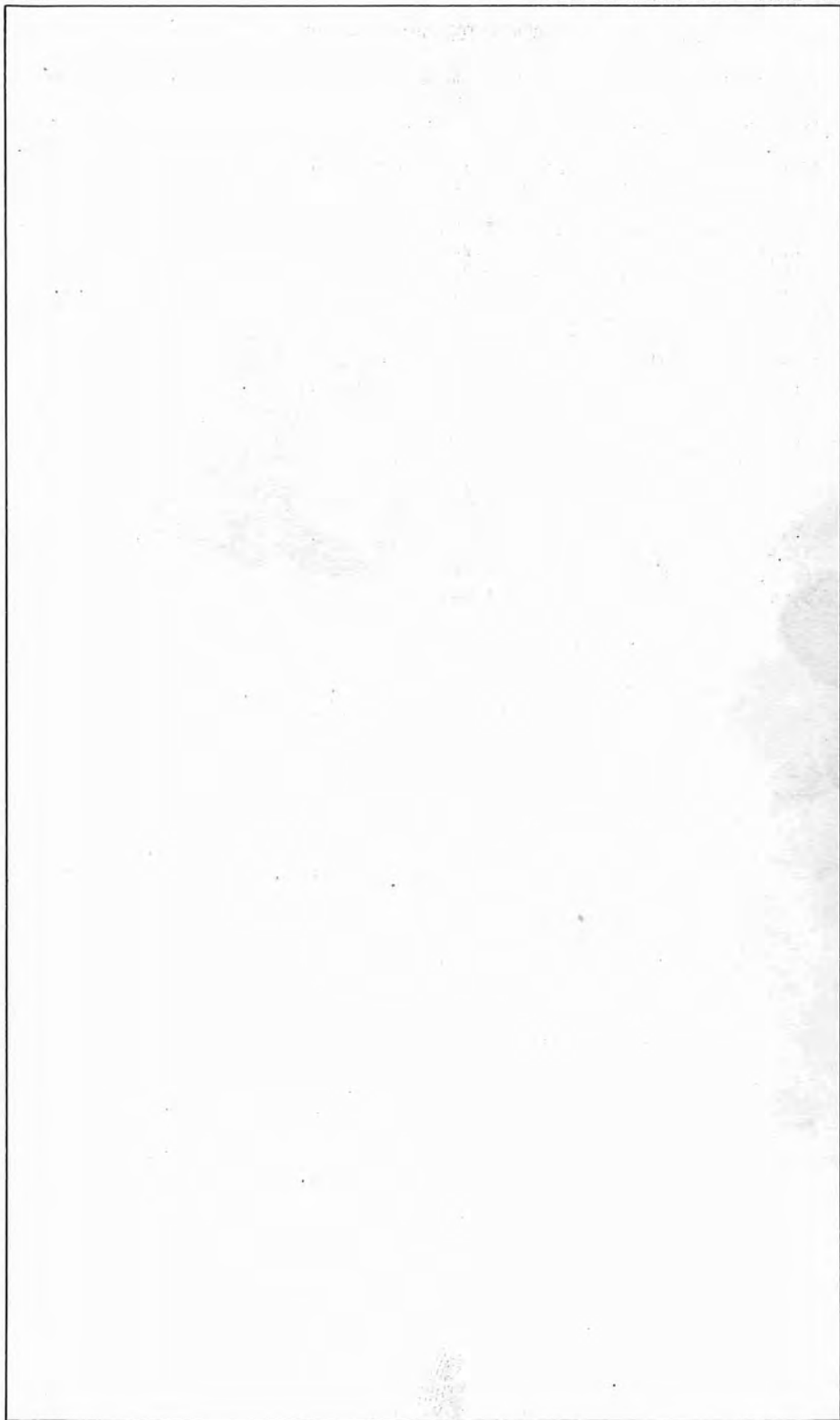
**WIDE SIDE CURTAINS (PR.) 50521**

Used only on cabs without side panels.

Slide Rod (side curtains) . .	51500
Support Angle Brkt. (upper).	51521
Support Post (right rear) . .	51550
Support Post (left rear) . .	51551
Support Angle (lower right).	51511
Support Angle (lower left) . .	51512
Spring . . . . .	M1245
SIDE CURTAIN COMPLETE (wide)	51513
Lock Bolt . . . . .	51515
Curtain Bar . . . . .	51516
Handle (curtain bar) . . .	F9701
Curtain Ring . . . . .	43901
Clip (lock bolt - right) . . .	51466
Clip (lock bolt - left) . . .	51463

**WIDE SIDE CURTAINS AND REAR WINDOW WITH CURTAIN 51499**

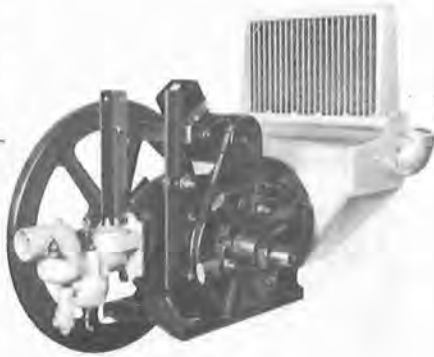
Made up of groups 50521 and 50522 but has only one set of corner support posts.



## GENERATOR OUTFIT 49192

This electrical system consists of headlight (swivel mounted on front safety rail), taillights, storage battery and generator. The generator is hinged above the engine crankcase, and is "V" belted to the pulley on the inner side of a standard "belt side" flywheel. This generator furnishes enough current for the ignition and all the lights. For instructions and complete parts list see bulletin 495.

GENERATOR (less pulley) . . .	F6995
Regulator & Cutout . . .	F7260
Fuse (6 amp) . . . . .	F7331
Brush Set . . . . .	F8040
Pulley - 3-5/8" (generator) .	M36653
Pulley - 7-9/16" (on flywheel)	M31040
V-Belt - 32" outside . . . .	F7448
Storage Battery . . . . .	F7332
Ammeter . . . . .	F3951
Headlight (sealed beam) . . .	F8343
Light Replacement Unit . . .	F8372
Bracket (casting) . . . . .	39808
Swivel Clip . . . . .	39180
Washer (friction) . . . . .	F8363
Taillight Bulb - 3 C. P. . . .	F6820
Taillight Lens (red) . . . .	F7363
Snap Ring (F7363 lens) . . . .	F7981
Switch (taillights) . . . . .	F5603





**BATTERYLESS GENERATOR OUTFIT 50692**

This electrical system consists of sealed beam headlight (swivel mounted on front safety rail), taillights and generator. Generator is hinged above the engine crankcase, and is "V" belted to the pulley on the inner side of a standard "belt side" flywheel. This generator furnishes current for all lights and the ignition after starting engine on dry cell batteries. For instructions and complete parts list see batteryless generator bulletin 614.

- GENERATOR (less pulley) . . . F9380
- Regulator & Cutout . . . F10013
- Brush Set . . . . .GBM 1012
- Pulley - 2-7/8" (generator). 48555
- Pulley - 9-13/32" (on flywheel) 50904
- V-Belt - 37-1/8" outside . . F6581
- Headlight (sealed beam) . . . F8343
- Light Replacement Unit . . . F8372
- Knife Connector . . . . . F9732
- Bracket (casting) . . . . . 39808
- Swivel Clip . . . . . 39180
- Washer (friction) . . . . . F8363
- Taillight Bulb - 3 C.P. . . . F6820
- Taillight Lens (red) . . . . . F7363
- Snap Ring (F7363 lens) . . . . F7981
- Switch (reversing) . . . . . F9398
- Switch (ignition) . . . . . F9399



**HAND GONG - 10 INCH 49912**

Loud, durable warning signal. Mounted away from tools. Operated by pull wire.

- Gong only - 10" . . . . . 1337
- Pull Wire . . . . . 37725
- Guide (pull wire) . . . . . M22600



**HAND GONG - 6 INCH 49911**

Meets minimum requirements. Safe mounting.

- Gong only - 6" . . . . . F3444
- Pull Wire . . . . . 37725
- Guide (pull wire) . . . . . M22600

**FOOT GONG - 10 INCH M29432**

Loud warning signal operated by foot, leaves both hands free. Mounted out of way of tools, etc.

- Gong only - 10" . . . . . F3025
- Mounting Board . . . . . M25202



**TURNTABLE M14905**

- Turntable Truss . . . . . M14959
- Turntable Rail . . . . . M14963
- Turntable Base . . . . . M14964

**AIR CLEANER M36321**

Oil bath type, includes filter unit complete with shell, ready to be fitted on mounting bracket in place of open screen type of cleaner standard on these cars.

- AIR CLEANER ASSEMBLY . . . . . F7665

**CANVAS COVER M7951**

Cars that are kept out of doors need this protection. Brown No. 10 duck, 7 x 9 ft. Eyelets for tying on car.

**SAFETY COUPLER M11668**

Provides maximum safety and efficiency in linking trailer to motor car. Hook 7/8" rod with self closing malleable iron catch.

**SPRING COUPLER M27169**

Bolts to drawbar on motor car. Springs cushion bumps and jerks when towing trailers.

**TAPER HAND REAMER**

Wheel reamers save time and provide an accurate means of bringing wheel and axle assemblies to gauge, and in removing burrs, paint, or rust from the bores. Listed at the right under the illustration are four reamers with the axle size each is to be used with. Check axle size before ordering.

**AMMETER F7838**

Low reading ammeter is desirable when checking ignition systems to determine coil draw. Scale reads from 0 to 3 amps.

**AMMETER 1230**

Used to check condition of dry cell batteries. Good ignition means easy starting.

**LINK COUPLER M6656**

One piece, holds securely, easily detached by lifting one end a few inches.

**POCKET WHEEL GAUGE M21138**

This gauge provides a dependable method of checking motor car and trailer wheel gauges. Locate line of one wheel, hold tape or other accurate measure in position, then shift gauge to other wheel.



Reamer (1-3/16 axle) . . . .	M7666
Reamer (1-5/16 axle) . . . .	M34728
Reamer (1-7/16 axle) . . . .	M7667
Reamer (1-11/16 axle) . . . .	M7668

**WHEEL PULLER M19559**

Very effective, yet light weight and easy to use, this puller makes it a simple matter to remove demountable wheels or hubs with complete safety. Consists of a cross bar and two long bolts with nuts and washers. Draw nuts evenly, and when tight, a hammer blow on center of cross bar frees the wheel.

**F7838****1230**

## PARTS USED ON SPECIAL CARS ONLY

Listed on this and following pages, in numerical order according to car designation, are spare parts used only on cars with figures in the space on the name plate marked "Special".

The symbols at left side of page are for standard car parts as listed on pages 24 through 45 and symbols for corresponding parts as used on the special cars are shown at the right-hand side of page. When selecting material for special cars, first locate items in standard parts section pages 24 through 45 and note symbol number. Then under the part of this section covering the car for which parts are being ordered, determine whether or not the symbol is changed for such cars. Items for which there are no corresponding parts in the standard parts section are shown as additional items under the car designation to which they apply.

## S2-H-1-1

M36670	Starting Crank . . . . .	Should read . . .	M36855
50518	Housing Support Angle - L.R. . . . .	" " . . .	50682
50517	Housing Support Angle - R.R. . . . .	" " . . .	50683
48822	Safety Rail (rear) . . . . .	" " . . .	50684
F7979	Timer Lever Indicating Plate . . . . .	" " . . .	M35802
Add:	1 Instruction Plate - Run . . . . .		M35803

## S2-H-1-2

48723	Cross Channel (front) . . . . .	Should read . . .	50753
48735	End Plate (tool tray - right rear) . . . . .	" " . . .	50757
48736	End Plate (tool tray - left rear) . . . . .	" " . . .	50758
48745	Drawbar . . . . .	Should read -rear	50755
M24796	U-Bolt - Omit		
M36670	Starting Crank . . . . .	Should read . . .	M36855
50518	Housing Support (left rear) . . . . .	" " . . .	50759
50517	Housing Support (right rear) . . . . .	" " . . .	50760
48822	Safety Rail (rear) . . . . .	" " . . .	50761
F7979	Timer Lever Indicating Plate . . . . .	" " . . .	M35802
Add:	1 Drawbar (front) . . . . .		50754
	1 Adapter Plate (drawbar) . . . . .		50756
	2 Coupler (drawbar) . . . . .		44681
	2 Pin with Chain (drawbar) . . . . .		M30756
	2 U-Bolt . . . . .		38095
	1 Cap Screw 1/2 x 1-3/4" . . . . .		F4109
	2 Cap Screw 1/2 x 1-1/2" . . . . .		F4334
	1 Instruction Plate - Run . . . . .		M35803

## S2-H-1-4

48725	Cross Channel (rear) . . . . .	Should read . . .	50716
48745	Drawbar . . . . .	" " . . .	50717
M24796	U-Bolt (drawbar) - Omit		
Add:	1 Tie Plate (drawbar) . . . . .		50720

## S2-H-1-5

M7677D	16 x 4 x 4 1/2 DEM. WHEEL . . . . .	Should read 16 x 5/16 x 4 1/2	M9688D
M11405	16 x 4 x 4 1/2 Dem. Tire only . . . . .	" " 16 x 5/16 x 4 1/2	M11404

## S2-H-1-6

RQ-D	ENGINE . . . . .	Should read . . .	RQ-D-1
F6823	Condenser - Omit		
A1012	Clamp Bar (long) - Omit		
A410	Clamp Bar (short) - Omit		
Add:	1 Cover Plate . . . . .		48420
	1 Street Elbow 1/2" . . . . .		F6521
	1 Overflow Tube . . . . .		QHB-237-1
	1 Clamp Strap (overflow tube) . . . . .	1 . . . . .	F8459

## S2-H-1-7

Changes same as S2-H-1-6, and in addition:

48807	Housing Support R. F. . . . .	Should read . . .	50722
48987	Housing Support L. F. . . . .	" " . . .	50724
48825	Hood (cooling condenser) - Omit		
Add:	2 Shovel Rack . . . . .		50726

## S2-H-1-8

48721	Axle Bearing Sill (right) . . . . .	Should read . . .	50736
48722	Axle Bearing Sill (left) . . . . .	" " . . .	50737
48723	Cross Channel (front) . . . . .	" " . . .	50738
48724	Cross Channel (middle) . . . . .	" " . . .	50739
48752	Rail Skid (right) . . . . .	" " . . .	50740
48755	Rail Skid (left) . . . . .	" " . . .	50743
46500	Set Off Skid (right) - Omit		
46501	Set Off Skid (left) - Omit		
M36700	Brake Lever . . . . .	Should read . . .	M36788
F6578	AXLE PULLEY 8" . . . . .	Should read - 10 x 5"	F2766
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645
50518	Housing Support Angle L.R. . . . .	Should read . . .	50682
50517	Housing Support Angle R.R. . . . .	" " . . .	50683
48822	Safety Rail (rear) . . . . .	" " . . .	50744
48826	Safety Rail (front) . . . . .	" " . . .	50746
41340	Belt Plate . . . . .	" " . . .	41341
Add:	8 Spacer (rail skid) . . . . .		M24985
	1 Center Pipe . . . . .		50748

## S2-H-1-9

F6578	Axle Pulley 8 x 5" . . . . .	Should read - 10 x 5"	F2766
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645

## S2-H-1-10

See bulletin 559 for magneto parts, magneto drive parts and magneto instructions. Omit all sections of this bulletin 571 referring to battery ignition, timer parts and timer controls, and in addition:

RQ-D	ENGINE . . . . .	Should read . . .	RQ-D-2
49858	CRANKSHAFT WITH BRGS., SLEEVE AND OIL SEAL RACE - Omit		
48775	Crankshaft (only) . . . . .	Should read . . .	51262
49859	BEARING CASING WITH STUDS (timer side) - Omit		
F7001	Oil Seal - Omit		
48777	Oil Seal Race - Omit		
48783	Support Casting (timer) - Omit		
F6578	Axle Pulley 8 x 5" . . . . .	Should read - 10 x 5"	F2766
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645
48868	Control Panel . . . . .	Should read . . .	51256

## S2-H-1-11

M35798N	DIFFERENTIAL AXLE . . . . .	Should read . . .	M16098N
F4252	Grease Fitting . . . . .	Should read - Grease Cup	F5235
48716	CENTER BEARING . . . . .	Should read . . .	51556
F5158	Grease Fitting . . . . .	Should read - Grease Cup	F2325
48718	MAIN AXLE BEARING . . . . .	Should read . . .	51557
F5158	Grease Fitting . . . . .	Should read - Grease Cup	F2325
M7677D	16 x 4 x 4 1/2" DEM. WHEEL . . . . .	Should read - 16 x 5/16 x 4 1/2"	M9688D
M11405	16 x 4 x 4 1/2" Dem. Tire Only . . . . .	Should read - 16 x 5/16 x 4 1/2"	M11404
F6578	Axle Pulley 8 x 5" . . . . .	Should read - 10 x 5"	F2766
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645

S2-H-1-12			
48721	Side Sill (right)	Should read	51634
48722	Side Sill (left)	" "	51636
48723	Cross Channel (front)	" "	50738
48724	Cross Channel (center)	" "	50739
48752	Rail Skid (right)	" "	50740
48755	Rail Skid (left)	" "	50743
46500	Set Off Skid (right) - Omit		
46501	Set Off Skid (left) - Omit		
48807	Housing Support (right front)	Should read	51648
48987	Housing Support (left front)	" "	51651
M17061	Spacer - Omit		
48822	Safety Rail (rear)	Should read	51653
48826	Safety Rail (front)	" "	51654
Add:	8 Rail Skid Socket		M24985
	2 Tool Tray Extension (outer)		51642
	2 Tool Tray Extension (inner)		51643
	1 Tool Tray Extension (right)		51644
	1 Tool Tray Extension (left)		51647
	1 Support (center rail)		51657
	1 Center Railing		51659
	2 Spacer		M23587
	2 Bolt 3/8 x 2-1/4"		M37153
	2 Slotted Nut 3/8"		F2877
S2-H-1-13			
48725	Cross Channel (rear)	Should read	51449
48745	Draw Bar	" "	51450
M24796	U-Bolt (draw bar)	" "	45804
48746	Lunch Bucket Tray	" "	51455
50518	Housing Support (left rear)	" "	50682
50517	Housing Support (right rear)	" "	50683
48822	Safety Rail (rear)	" "	51458
51666	SEAT SUPPORT (and parts) - Omit		
Add:	2 Bolt 1/2 x 2" (draw bar)		44989
	2 Slotted Nut 1/2"		F2545
	1 Socket (lift pipe)		M24374
	1 Spacer (lift pipe socket)		51454
	1 Center Railing		51459
S2-H-1-14			
M15351N	Drive Axle	Should read	51870N
F2703	Axle End Nut	" "	F8823
M8509	INSULATION SET 1-7/16" - Omit Symbol		
M8510	Insulating Sleeve	Should read	42975
M35798N	DIFFERENTIAL AXLE	" "	57076N
M16102	Axle Half only	" "	42980
M7677D	16 x 4 x 4 1/2" DEM. WHEEL	Should read - 16 x 5/16 x 4 1/2"	M8149D
M11410	Hub only	Should read	M13459
M11405	16 x 4 x 4 1/2" Dem. Tire	Should read - 16 x 5/16 x 4 1/2"	M11404
RQ-D	ENGINE	Should read	RQ-D-1
F6823	Condenser - Omit		
A1012	Clamp Bar (long) - Omit		
A410	Clamp Bar (short) - Omit		
50518	Housing Support (left rear)	Should read	50682
50517	Housing Support (right rear)	" "	50683
48822	Safety Rail (rear)	" "	50684
48826	Safety Rail (front)	" "	51872
51666	SEAT SUPPORT (and parts) - Omit		
48825	Condenser Hood - Omit		
Add:	1 Cover Plate		48420
	1 Overflow Tube		QHB-237-1
	8 Saddle (safety rail)		51954
	1 Center Railing		51955
	1 8" Foot Gong		51873

S2-H-1-15

Changes same as S2-H-1-10 omitting change to Axle Pulley and Endless Cord Belt, and in addition:

M7677D	16 x 4 1/2 x 4 1/2" DEM. WHEEL . . . . .	Should read - 16 x 5/16 x 4 1/2"	M9688D
M11405	16 x 4 1/2 x 4 1/2" Dem. Tire . . . . .	Should read - 16 x 5/16 x 4 1/2"	M11404

S2-H-1-16

48755	Rail Skid (left) . . . . .	Should read . . . . .	53277
48791	Tail Pipe . . . . .	" " . . . . .	53278

S2-H-1-17

50517	Housing Support (right rear) . . . . .	Should read . . . . .	50683
50518	Housing Support (left rear) . . . . .	" " . . . . .	50682
48822	Safety Rail (rear) . . . . .	" " . . . . .	51458
51666	SEAT SUPPORT (and parts) - Omit		
Add:	1 Center Railing . . . . .		51459

S2-H-1-18

Changes same as S2-H-1-5, and in addition:

48725	Cross Channel (rear) . . . . .	Should read . . . . .	50716
48745	Draw Bar . . . . .	" " . . . . .	50717
F5855	Cap Screw 1/2 x 2-1/4" . . . . .	Should read - 1/2 x 1-3/4"	F4109
M24796	U-Bolt - Omit		
M36670	Starting Crank - Omit		
M24837	Holder (starting crank) - Omit		
M35511	Retainer (starting crank) - Omit		
M36639	Bearing Catch (starting crank) - Omit		
45235	Spacer (bearing catch) - Omit		
45236	Spacer (bearing catch) - Omit		
F6578	Axle Pulley 8 x 5" . . . . .	Should read - 10 x 5"	F2766
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645
Add:	1 Plate (drawbar) . . . . .		50720

S2-H-1-19

Changes same as S2-H-1-5 and S2-H-1-16, and in addition:

F6699	Exhaust Tubing . . . . .	Should read - 31"	
-------	--------------------------	-------------------	--

S2-H-1-20

46252	Mounting Strip (engine) . . . . .	Should read - Mounting Plate	55410
48789	Exhaust Elbow . . . . .	Should read . . . . .	55411
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645
F6578	Axle Pulley 8 x 5" . . . . .	Should read - 10 x 5"	F2766
41340	Belt Plate . . . . .	Should read . . . . .	41341

SF2-H-1-21

Furnished less engine, starting crank, coil, batteries and tools, and in addition:

48716	CENTER BEARING 1-7/16" . . . . .	Should read . . . . .	55999
F5158	Grease Fitting . . . . .	Should read - Oil Cup	F5484
48718	MAIN AXLE BEARING 1-7/16" . . . . .	Should read . . . . .	M24764A
F5158	Grease Fitting . . . . .	Should read - Oil Cup	F5484
F6578	Axle Pulley 8 x 5" . . . . .	Should read - 10 x 5"	F2766
F7978	Endless Cord Belt 4 x 91-1/2" . . . . .	Should read - 4 x 95"	F3645
41340	Belt Plate . . . . .	Should read . . . . .	41341

S2-H-1-22

Changes same as S2-H-1-5, and in addition:

48725	Cross Channel (rear) . . . . .	Should read . . . . .	50716
48745	Draw Bar . . . . .	" " . . . . .	50717

P5855	Cap Screw 1/2 x 2-1/4"	Should read 1/2 x 1-3/4"	F4109
M24796	U-Bolt - Omit		
M36670	Starting Crank - Omit		
M24837	Holder (starting crank) - Omit		
M35511	Retainer (starting crank) - Omit		
M36639	Bearing Catch (starting crank) - Omit		
45235	Spacer (bearing catch) - Omit		
45236	Spacer (bearing catch) - Omit		
Add:	1 Plate (drawbar)		50720

## S2-H-1-23

M7677D	16 x 1/4 x 4-1/2 DEM. WHEEL	Should read 16 x 5/16 x 4-1/2	M9688D
M11405	16 x 1/4 x 4-1/2 Dem. Tire only	" " 16 x 5/16 x 4-1/2	M11404
46252	Mounting Strip (engine)	Should read - Plate	55410
48789	Exhaust Elbow	Should read	55411

## S2-H-1-24

Changes same as S2-H-1-22 and S2-H-1-23.

## S2-H-1-25

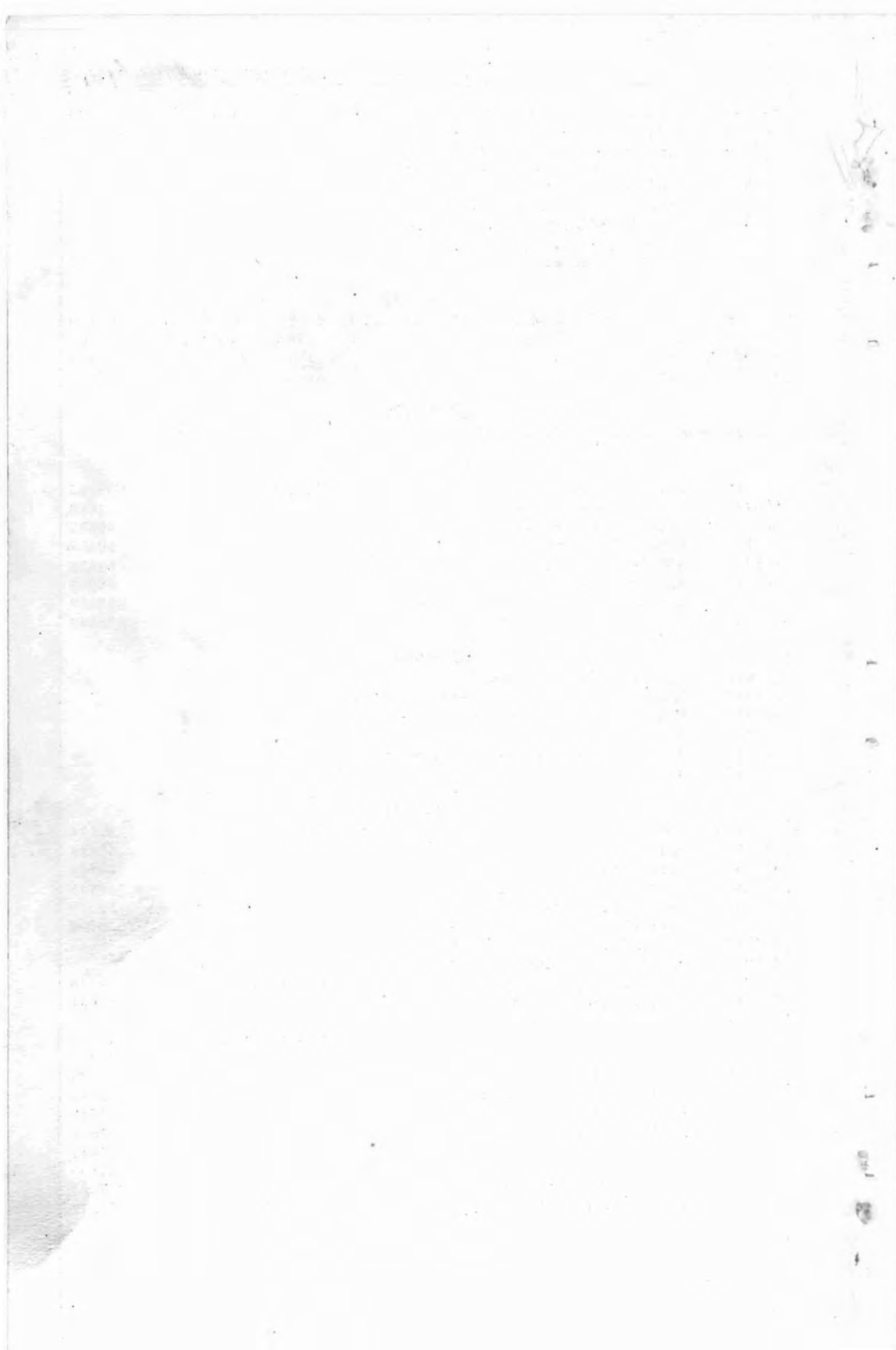
M36670	Starting Crank	Should read	M36855
50518	Housing Support Angle L.R.	" "	50682
50517	Housing Support Angle R.R.	" "	50683
48822	Safety Rail (rear)	" "	50684
48832	HOUSING SEAT (front)	" "	62338
48838	HOUSING SEAT (rear)	" "	62059
F7979	Timer Lever Indicating Plate	" "	M35802
Add:	1 Instruction Plate - Run		M35803

## S2-H-1-26

M36670	Starting Crank - Omit
M36639	Bearing Catch (on step plate) - Omit
45235	Spacer (bearing catch thick) - Omit
45236	Spacer (bearing catch thin) - Omit
M35511	Holder (starting crank - with loop) - Omit
M24837	Holder (starting crank - plain) - Omit

## S2-H-1-27

48721	Side Sill (right)	Should read	51634
48722	Side Sill (left)	" "	51636
48723	Cross Channel (front)	" "	50738
48724	Cross Channel (center)	" "	50739
48752	Rail Skid (right)	" "	50740
48755	Rail Skid (left)	" "	50743
M34917	Set-Off Skid (right) - Omit		
M34916	Set-Off Skid (left) - Omit		
48807	Housing Support (right front)	Should read	51648
48987	Housing Support (left front)	" "	51651
M17061	Spacer - Omit		
48822	Safety Rail (rear)	Should read	51653
48826	Safety Rail (front)	" "	67244
Add:	8 Rail Skid Socket		M24985
	2 Tool Tray Extension (outer)		51642
	2 Tool Tray Extension (inner)		51643
	1 Tool Tray Extension (right)		51644
	1 Tool Tray Extension (left)		51647
	1 Center Railing		51659
	2 Bolt 3/8 x 2-1/4"		M37153
	2 Hex Slotted Nut 3/8"		F2877





## INSTRUCTIONS AND PARTS

# Fairmont

### CABS - WINDSHIELDS - CURTAINS



This bulletin contains instructions and tools required for installing the Self-Sealing window moulding used on late Fairmont cabs and aluminum windshields. Also included are commonly ordered parts - window glass, moulding, curtain fasteners and curtain straps as furnished on current cabs, aluminum windshields and curtains.

TO INSURE PROMPT AND CORRECT SHIPMENT of parts always give:

- (1) Quantity of each part wanted.
- (2) Symbol number of part as shown in this book.
- (3) Description of part as shown in this book.
- (4) State whether shipment is to be by mail, express, or freight.

All parts are shipped f. o. b. factory, transportation charges to be paid by customer. Terms are strictly cash with order.

Moulding F9699 with integral sealing strip replaces moulding that required a separate filler strip, and is furnished in 12 foot lengths only. F9539 filler strip for early two-piece moulding is available and furnished per foot in random lengths. SPECIFY LENGTH REQUIRED.

Moulding F9442 and F7416 are furnished per foot in random lengths. SPECIFY LENGTH REQUIRED.

## FAIRMONT RAILWAY MOTORS, Inc.

FAIRMONT, MINNESOTA, U. S. A.

### DISTRICT OFFICES

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IN CANADA: Fairmont Railway Motors, Ltd., Toronto, Ont.

## INSTALLATION INSTRUCTIONS

### Self Sealing Window Moulding (with integral sealing strip) F9699

**NOTE**--Measure perimeter of window opening and add 1/8 inch per foot for the correct length of moulding to insure a tight fitting joint.



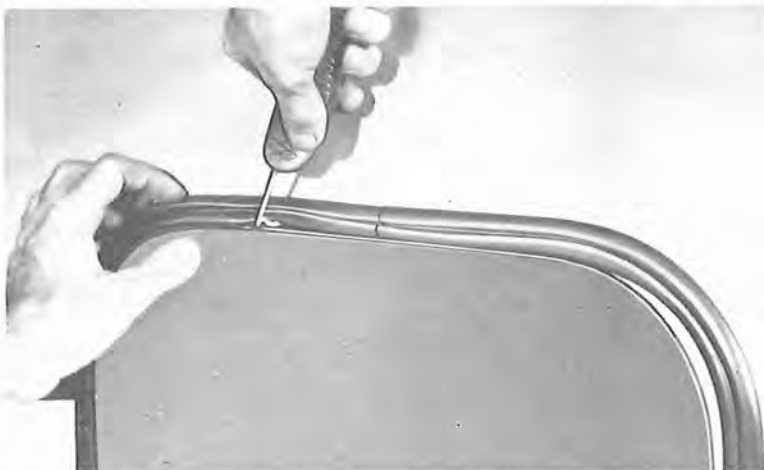
1 - For easy moulding installation, window panel opening is rubbed with paraffine or moulding lubricated with soap and water solution. Then starting along bottom, body panel channel of moulding is fitted over body panel edge.

2 - Moulding is continued around perimeter of body panel opening - panel channel of the moulding enveloping panel edge in a snug fit. Then the moulding is cut to overlap starting point by 1/8 inch per foot of body opening perimeter. This assures a tight fit.

3 - Slightly withdraw moulding at starting point so ends of moulding can be brought together, then replace over the body panel. This gives a tight, smooth joint.



4 - Moulding is designed with glass channel lip opened at 45° for easy installation of glass panel. Starting from lower corner glass panel is fitted into channel as far as it will go without forcing.



5 - Working in both directions from starting point, specially designed moulding installation tool F9810 lifts glass channel lip so glass can be easily slipped into position.

6 - At final corner the same tool opens glass channel to permit entry of remaining glass edge. Entire operation requires but a few minutes.

7 - With a small brush, soap and water solution can be applied to moulding's filler strip channel. This will greatly ease the final operation of installing lip of sealing strip.



8 - Use spur on handle of installation tool to insert lip of sealing strip into place.

#### FOLLOWING INSTRUCTIONS FOR TWO-PIECE MOULDING

To install glass using moulding that requires a separate filler strip, follow preceding instructions numbers 1 through 7. Filler strip is applied as follows:



8 - Filler strip is inserted into handle and eye of filler strip installation tool F9811. Both handle and eye are so constructed that they prevent filler strip from twisting.



9 - At top, away from moulding joint, filler strip and eye of tool are inserted into moulding's filler-strip channel. End of filler strip is held in position with thumb during first motion of tool.

10 - Tool is moved along channel with zipper-like motion. Filler strip feeds through handle and eye, threads into channel. Rounding corners is made easier if tool is "wiggled" slightly as it is moved through filler-strip channel.

11 - When starting point is reached, the tool is removed. Filler strip should be cut to overlap starting point so when both ends are forced into place, joint will be under pressure.



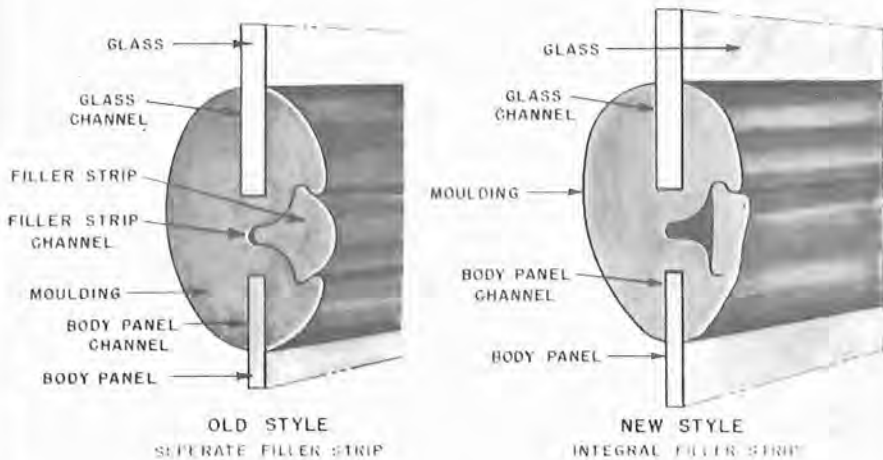
12 - Spur on handle is used to compress filler strip overlap into channel for a tight joint. Spur is also useful to reposition any part of filler strip not properly seated.

## MITERED CORNERS

While cutting each angle, moulding should be held with channel lips in installed position. This prevents distortion and assures a weather-tight joint. One end of moulding is cut to the precise angle required to form a smooth, tight-fitting corner. Then allowing 1/8 inch overlap per foot other end of moulding is cut at exact angle the mitered joint demands.

Starting flush against one corner, body panel channel of moulding is fitted over body panel edge. Other end is forced into position, and resulting buldge is pressed onto panel edge. Same procedure is followed for all four sides. Glass is installed as previously explained with the moulding installation tool F9810.

Illustrated below are views showing completed installation of both types of self-sealing window moulding. Also shown are tools to aid in installation.



## INSTALLATION TOOLS

**F9810**

Moulding Installation Tool  
for all moulding.



**F9811**

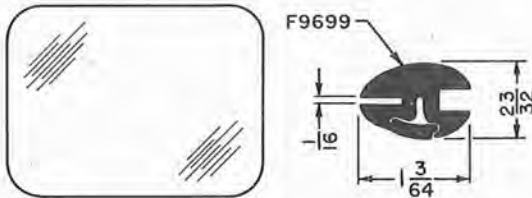
Filler Strip Installation  
Tool for early two-piece  
moulding only.



## ALUMINUM WINDSHIELD, CAB, AND CURTAIN WINDOWS

**NOTE**--With each type of glass is illustrated the moulding used. When ordering moulding for rounded corner glass, measure outside circumference and add 1/2 inch per foot for fitting. For square corner glass, add 2 inches for each corner for cutting and fitting.

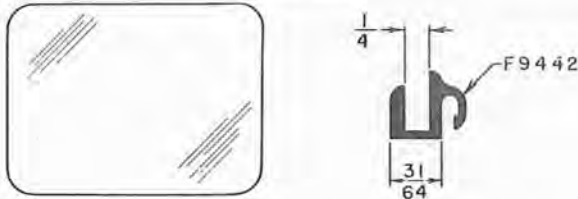
### 2-5/8" RADIUS CORNERS



**NOTE**--F9699 Moulding is furnished in 12 foot lengths only.

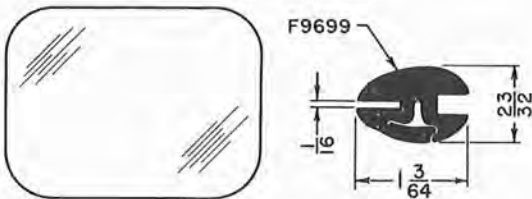
GLASS SYMBOL	TYPE	SIZE	MOULDING
66315	Safety Plate	1/4 x 18 x 31-5/8"	F9699

### 3" RADIUS CORNERS



GLASS SYMBOL	TYPE	SIZE	MOULDING
F9447	Safety Sheet	7/32 x 9-1/2 x 16"	F9442
F9446	Safety Sheet	7/32 x 16 x 26"	F9442

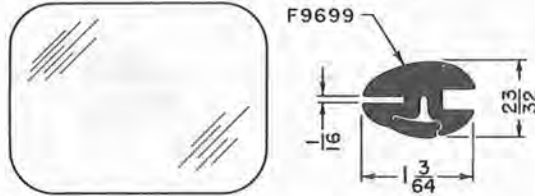
### 3-3/4" RADIUS CORNERS



**NOTE**--F9699 Moulding is furnished in 12 foot lengths only.

GLASS SYMBOL	TYPE	SIZE	MOULDING
68051	Safety Plate	1/4 x 10-1/2 x 23"	F9699

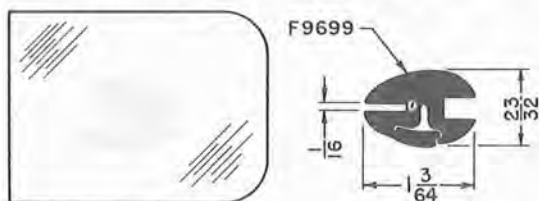
## 3-23/32" RADIUS CORNERS



NOTE--F9699 moulding is furnished in 12 foot lengths only.

GLASS SYMBOL	TYPE	SIZE	MOULDING
50244	Safety Sheet	7/32 x 7-15/16 x 9-15/16"	F9699
51530	Safety Sheet	7/32 x 7-15/16 x 11-15/16"	F9699
58622	Safety Sheet	7/32 x 7-15/16 x 19-15/16"	F9699
54070	Safety Sheet	7/32 x 7-15/16 x 21-15/16"	F9699
51507	Safety Sheet	7/32 x 7-15/16 x 25-15/16"	F9699
59678	Safety Sheet	7/32 x 9-15/16 x 25-15/16"	F9699
56931	Safety Sheet	7/32 x 11-15/16 x 17-15/16"	F9699
62317	Safety Sheet	7/32 x 11-15/16 x 25-15/16"	F9699
52416	Safety Sheet	7/32 x 12-15/16 x 19-15/16"	F9699
54308	Safety Sheet	7/32 x 13-7/16 x 23-15/16"	F9699
50233	Safety Sheet	7/32 x 17-15/16 x 17-15/16"	F9699
59680	Safety Sheet	7/32 x 17-15/16 x 25-15/16"	F9699
51734	Safety Sheet	7/32 x 17-15/16 x 27-15/16"	F9699
63774	Safety Sheet	7/32 x 19-15/16 x 23-15/16"	F9699
52415	Safety Sheet	7/32 x 19-15/16 x 24-15/16"	F9699
51405	Safety Sheet	7/32 x 19-15/16 x 25-15/16"	F9699
56561	Safety Sheet	7/32 x 19-15/16 x 31-15/16"	F9699
60970	Safety Sheet	7/32 x 19-15/16 x 35-15/16"	F9699
60604	Safety Sheet	7/32 x 21-15/16 x 25-15/16"	F9699
59676	Safety Sheet	7/32 x 23-15/16 x 25-15/16"	F9699
62319	Safety Sheet	7/32 x 25-15/16 x 25-15/16"	F9699
60606	Safety Sheet	7/32 x 25-15/16 x 27-15/16"	F9699
59682	Safety Sheet	7/32 x 25-15/16 x 39-15/16"	F9699
53546	Safety Sheet	7/32 x 31-15/16 x 35-15/16"	F9699
63373	Safety Plate	1/4 x 15-15/16 x 17-15/16"	F9699
63374	Safety Plate	1/4 x 17-15/16 x 23-15/16"	F9699
52027	Safety Plate	1/4 x 23-15/16 x 28-15/16"	F9699
63773	Safety Plate	1/4 x 23-15/16 x 30-9/16"	F9699
53545	Safety Plate	1/4 x 31-15/16 x 35-15/16"	F9699

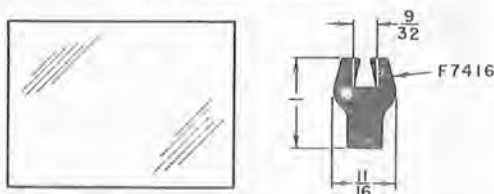
## 2 SQUARE and 2 3-23/32" CORNERS



NOTE--F9699 Moulding is furnished in 12 foot lengths only.

GLASS SYMBOL	TYPE	SIZE	MOULDING
50964	Safety Sheet	7/32 x 14-3/8 x 22-15/16"	F9699
49717	Safety Sheet	7/32 x 14-3/8 x 27-13/16"	F9699

## 4 SQUARE CORNERS



NOTE--Listed below are the commonly ordered sizes of square cut glass. If a size is required that is not listed give us EXACT dimensions and state whether safety sheet or safety plate glass is desired.

GLASS SYMBOL	TYPE	SIZE	MOULDING
F9240	Safety Sheet	7/32 x 8 x 16"	F7416
F7859	Safety Sheet	7/32 x 8 x 18"	F7416
F8406	Safety Sheet	7/32 x 8 x 20"	F7416
F7789	Safety Sheet	7/32 x 12 x 20"	F7416
F7675	Safety Sheet	7/32 x 18 x 28"	F7416
F7948	Safety Sheet	7/32 x 20 x 26"	F7416
F7921	Safety Sheet	7/32 x 20 x 32"	F7416
F7728	Safety Sheet	7/32 x 22 x 24"	F7416
F8405	Safety Sheet	7/32 x 22 x 26"	F7416

## PLASTACELE - TRANSPARENT PLASTIC

NOTE--Plastacele and transparent plastic can be furnished in sheets 20 inches wide and 50 inches long, by the foot 20 inches wide, or cut to size as required. Plastacele must be applied with bolts or machine screws. Transparent plastic can be sewn in the curtain.

F8301	Plastacele .050	- Specify size required.
F4899	Transparent Plastic .020	- Specify size required.

## CURTAIN STRAPS

F7478	- Web Strap with Buckle 5/8 x 12"
F3394	- Web Strap with Buckle 5/8 x 18"
F7643	- Web Strap with Buckle 5/8 x 24"
F3374	- Web Strap with Buckle 1 x 18"
F9250	- Web Strap with Buckle 1 x 24"
F3376	- Leather Strap with Loop and Snap 5/8 x 12"
F3393	- Footman Loop



### CURTAIN FASTENERS

**NOTE**--Fasteners with machine screw threads are not furnished with nuts. Order separately if required. #10-32 Hex Nut F367R. #8-32 Hex Nut F1019.

### COMMON SENSE FASTENERS



**F6749**  
#10-32 x 3/8" Mach.  
Screw (less nut)



**F3445**  
#7 x 5/8" Wood Screw



**F7375**  
Two Screw Base



**F7374**  
Two Prong Clinch



**F7515**  
Washer  
(for F7374)



**F7517**  
Washer  
(for F7516)



**F7516**  
Eyelet

### LIFT-THE-DOT FASTENERS



**F9569**  
#8 x 3/8" S. T.  
Metal Screw



**F7749**  
#8 x 3/4"  
Wood Screw



**F7376**  
#8-32 x 4" Mach.  
Screw (less nut)



**F7748**  
#10-32 x 4" Mach.  
Screw (less nut)



**F10492**  
#10-14 x 3/8" S. T.  
Metal Screw

**F10490**  
#10-32 x 5/16" Mach.  
Screw (less nut)



**F7750**  
Tubular Rivet



**F7751**  
Washer  
(for F7750)



**F7746**  
Socket  
(for all lift-dot)



**F7747**  
Clinch Plate  
(for all lift-dot)

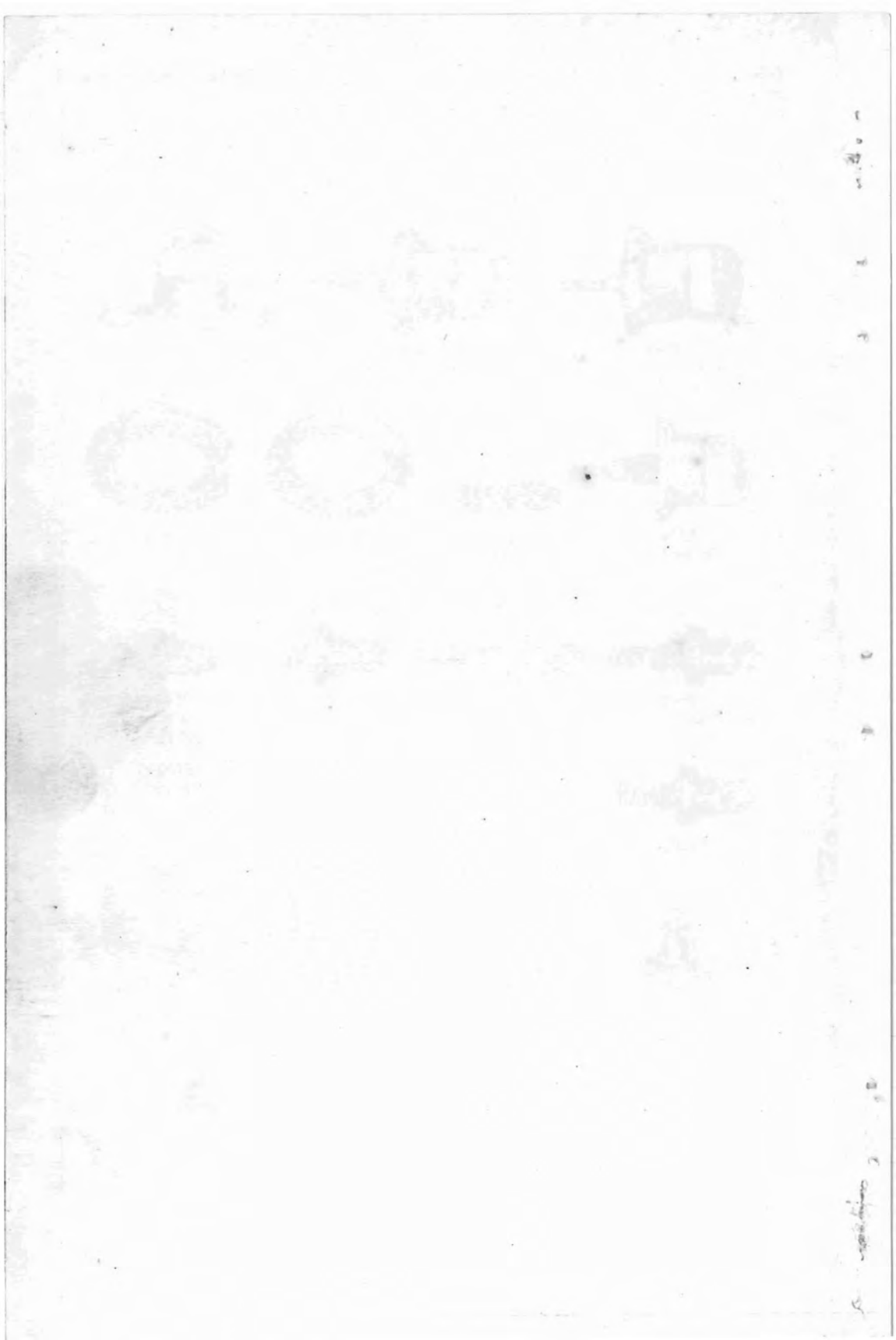


**F3792**



**F7562**





## OIL—WATER—FUEL

Satisfactory performance of a motor car depends to a great extent on these three essentials. A FAIRMONT engine of the two-cycle type must never be run without water in the water jacket and lubricating oil thoroughly mixed with the gasoline.

OIL is of vital importance in protecting a motor car and engine against rapid wear. The proper amount and grade of oil must be mixed in the fuel for two-cycle engines, and bearings and other moving parts should be lubricated regularly.

Some oils are unsatisfactory for use in FAIRMONT two-cycle engines. Complete information on oil recommendations and oil-fuel mixtures is given in each motor car or engine instruction bulletin. Don't use poor oil or reduce the proportions recommended.

WATER in the cooling system should be kept at the correct level to insure proper engine cooling. The simple FAIRMONT cooling system keeps the engine at the most efficient temperature, which insures economical operation.

FUEL for two-cycle engines should have a minimum lead content to obtain best results. It must be mixed with the correct amount of oil to properly lubricate such engines.

# *Fairmont*

Inspection Motor Cars  
Section Motor Cars  
B & B and Extra Gang Cars  
Hy-Rail Motor Cars  
Push Cars and Trailers  
Motor Car Engines  
Roller Axle Bearings  
Wheels and Axles  
Weed Mowers  
Weed Sprayers  
Weed Burners  
Extinguisher Cars  
Ballast Maintenance Cars  
Oil Spray Cars  
Derrick Cars  
Tie Sprayers  
Tie Removers  
Tie Inserters  
Spike Pullers  
Rail Lifters  
Tie Nippers  
Tie Brushes  
Crib Reducers  
Tie Bed Scarifiers  
Grouting Equipment  
High Speed Spot Boards