INSTRUCTION BOOK

BARCO

UNIT TYTAMPER

Type TT-2

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Read Carefully

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BARCO MANUFACTURING CO.
1801-15 Winnemac Avenue
CHICAGO, ILL.

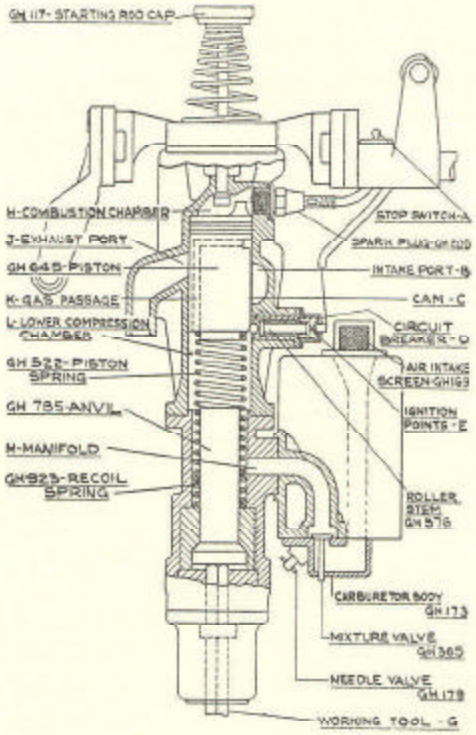
STANDARD WARRANTY

We warrant each new Barco gasoline tool manufactured by us to be free from defects in material and workmanship. Our obligation under this warranty shall be limited to replacement at our factory of any part or parts thereof which shall, within thirty days after delivery of such tool to the original purchaser, for his or its use (not meaning dealers), be returned to us at Chicago, Illinois, with transportation charges prepaid, and which our examination shall disclose to our satisfaction as having been defective; this warranty being our sole and only warranty in connection with the sale and use of said tool. Our obligation to make good defects as above stated, shall be full measure of our responsibility to the purchaser or user. We neither assume nor authorize any other person to assume for us any other liability in connection with the sale of such tools.

This warranty shall not apply to any Barco tool which has been subjected to misuse, negligence, accident, or to failure to follow instructions, nor shall it apply to any tool or parts therefor, if parts are applied that are not furnished or recommended by this company.

We reserve the right to make changes or improvements at any time without incurring the obligation of making such changes on machines previously sold.

BARCO MANUFACTURING COMPANY
1801-15 Winnemac Avenue
Chicago, Illinois



OPERATION DIAGRAM

BARCO GASOLINE UNIT TYTAMPER

PRINCIPLE OF BARCO UNIT TYTAMPER EXPLAINED

(See drawing opposite page)

The Barco Unit Tytamper is a two cycle single cylinder gasoline engine with a solid steel piston, GH-645, that acts as the hammer: Below the piston are two springs, the piston spring, GH-522, and recoil spring, GH-523, that act in place of the usual connecting rod. It is started by pushing down on the starting rod cap, GH-117. This forces the piston down, thereby compressing the piston spring and recoil spring which return the piston to the top of the stroke.

The piston in its up travel, tends to create a vacuum in the lower compression chamber **L**. This causes a suction in the manifold **M** which lifts the mixture valve, GH-365, in the carburetor body, GH-173, allowing a charge of gasoline and air to enter the lower compression chamber.

As the piston goes down, the mixture valve in the carburetor closes and the gas mixture in the lower compression chamber is compressed.

When the top of the piston in its down travel passes the upper surface of the intake port **B** in the cylinder wall, the compressed gas below the piston enters the combustion chamber **H** through the gas passage holes **K** in the piston.

As the piston again travels upward, it compresses the gas in the combustion chamber and before the piston reaches the top of its stroke, the cam **C** on the piston strikes the roller stem, GH-376, causing the ignition points **E** in the circuit breaker **D** to meet and complete the ignition circuit, which produces a spark in the spark plug, resulting in an explosion.

The explosion drives the piston against the anvil, GH-785, the blow being transmitted to the working tool **G** in contact with the anvil.

The rebound of the piston from the anvil, plus the recoil action of the piston and recoil springs, gives the upstroke to the piston. The exhaust port **J** is higher on the cylinder wall than the intake port **B**, enabling the burned gas to escape through the exhaust port before the fresh charge of gas enters the combustion chamber. This two cycle principle results in an explosion each time the piston reaches the top of its stroke.

THE FOLLOWING INSTRUCTIONS NUMBERED 1 TO 15 MUST BE READ, UNDERSTOOD, AND FOLLOWED IN ORDER TO OBTAIN EASY STARTING AND PROPER OPERATION OF BARCO UNIT TYTAMPERS:

THREE SIMPLE PRINCIPLES GOVERN STARTING AND OPERATING, NAMELY:

FUEL:

Correct gasoline and oil mixture in the tank (see instruction card in battery box lid), regulated by the needle valve of carburetor and properly mixed with air at the fuel valve, and

COMPRESSION:

The transfer of the gas mixture to the combustion chamber, and

IGNITION:

Firing the charge of gas with an ample spark.

If one principle is wrong, proper performance is impossible. The operator, therefore, MUST know, or be able to determine, when any of the principles are faulty.

FUEL:

1. **OIL**—Use only SAE 70 paraffin base oil with firing point of about 600 degrees. (See instruction card in battery box lid).
2. **GASOLINE**—Third grade gasoline is satisfactory and preferable in warm weather. In winter, use the "regular" grade recommended for automobiles.
3. **OIL AND GASOLINE MIXTURE**—Use ¼ pint of oil with one gallon of gasoline. Never pour oil in gas tank. Always mix well in separate container.

   For steady operation under extreme heat conditions, use ½ pint of oil to a gallon of mixture.
4. **THE LIFT OF FUEL VALVE IN CARBURETOR** should be 3/64". It may be a trifle more but never less.

COMPRESSION:

5. **With proper compression, explosions will commence after 4 to 6 pokes on the starting rod if the needle valve is open 1¼ turns or more and the carburetor is sufficiently primed;** (providing, of course, the gasoline mixture is right, the spark strong enough, and the spark plug O.K. to fire the charge).

   Loss of compression is, therefore, indicated when excessive pumping on the starting rod is required to obtain explosions, or when no explosions can be obtained.

   Causes of loss of compression are hereby listed in the order in which they usually occur:

   (a) Dry piston and cylinder wall due to improper oil or insufficient amount of oil.

   (b) Piston rings collapsed due to improper oil or insufficient amount. (When piston is removed from cylinder there should be a gap between the ends of the free rings of at least 1/32". Rings are fit in the cylinder with approximately .015" clearance).

   (c) Cylinder not seating properly on anvil housing due to tie rods not being secured evenly,—to one tie rod being loose,—or to cylinder gasket being omitted or defective.

   (d) Fuel valve in carburetor not seating properly. (If tytamper is idle in a perpendicular position with needle valve open and gasoline drips from carburetor, it indicates fuel valve does not seat properly).

   (e) Carburetor loose or carburetor gasket defective.

   (f) Gas tank loose or gasket defective.

   (g) Starting rod not seating properly.

   (h) Deep score in cylinder above ports, or cylinder cracked.

   Bear in mind that loss of compression due to (a), (b), (g) or (h) can be detected from the action of the piston on the up stroke. With any of these faults existing, the piston will come up rapidly to the piston stop in the cylinder head.

This is noticeable by a metallic sound when the piston hits, or, a quick stopping of the "buzz" of the coil on the up stroke. **If the tytamper is normal, the "buzz" of the coil will continue for some time on the up stroke.**
Causes (c), (d), (e) and (f) can be detected only by excessive priming of the carburetor and pumping on the starting rod in order to obtain explosions, or by gasoline dripping from the carburetor.

IGNITION: This is the most important of all, so study carefully.

6. **The Spark Plug** side electrode must be tight and sloped outward so the spark occurs beyond the barrel of the plug. A wide gap of $\frac{1}{32}$" is necessary between the electrodes. **A fouled spark plug (or weak battery) will cause a delayed explosion (an explosion felt in your hand when the starting rod is pushed down).** To determine if plug is fouled, remove it from cylinder, connect high tension wire and ground the plug against cylinder. Insert card-board (post card or calling card thickness) between electrodes and cause coil to buzz. If plug is good, spark should burn directly through card-board. If not, plug is fouled and requires cleaning or replacement.

7. If the battery is strong, coil points clean and adjusted, and the coil properly regulated, a hot spark of $\frac{3}{8}$" to $\frac{5}{12}$" can be obtained off the spark plug end of the high tension wire when disconnected from the plug. **A hot spark of $\frac{5}{16}$" or** more must be obtained from the spark plug end of the high tension wire when held $\frac{5}{16}$" away from the plug. (Coil must buzz). If the spark will jump a gap of only $\frac{1}{16}$" or $\frac{1}{8}$" to the plug, the tytamper will not start or operate properly. Weak spark is due to improper connections, a weak battery, or the coil.

8. **A weak battery** is detected by "holding the buzz of the coil" for about 10 seconds. If weak, the buzz will be low, or it will die down or out. A weak battery is the most common cause of hard starting or frequent stopping.

9. **The coil points** should separate .015"—.020" when the vibrator is held down against the magnet for coils in battery boxes and about .032" for coils in separate coil boxes. (If the spark off the end of the high tension wire will not jump a gap of at least $\frac{5}{16}$" with proper connections, new battery, and coil points clean and set properly, then the coil can be "stepped up" by turning the knurled nut to the right—for coils in battery boxes). If coil points are pitted or dirty, spark will be materially reduced.

10. **TO ADJUST CIRCUIT BREAKER (TIMER)** AGH-374 (OLD TYPE): See pp. 11 and 12. **The circuit breaker ignition points** (contacts) should be separated .008"—.010". This is regulated by adjusting the **inner** ignition point (the one **nearest** the cylinder) and **locking** it with the jam nut provided. Do this with the end housing removed from the breaker body (cap screws) and breaker body removed from the cylinder studs. (Convenient to use cylinder studs as "holding vise" when removing or applying end housing).

    Lay aside large spring and check point gap by looking through holes in end housing while holding this housing against breaker body. Use the .008" feeler gauge provided.

Be sure the stem which holds the inner ignition point is in the breaker body **as far as it will go.** Before bolting onto breaker body check as in No. 11.

11. When the piston is pushed down slowly the flat end of that stem carrying the cam roller should be pushed **outward** to a position which is **FLUSH** with the flat face of the breaker body casting. (This is regulated with .005" thick shims between the breaker body and cylinder. Removing shims makes the stem come out farther. Either make it "exactly" flush or "under" flush,—**NEVER** "over" flush).

    Check this with end housing removed as in No. 10. (Convenient to use flat face of this housing as a "straight edge" to see whether to add or subtract shims).

    Never disturb (except to tighten, if necessary) the ignition point (contact) bolted **permanently** into this end housing. **NO ADJUSTMENTS HERE.**

    FINAL IMPORTANT CHECK is to push piston down against anvil (or nearly so) and be **SURE** that this does not **REDUCE** the contact gap more than several thousandths.

12. When the timer points are in contact, the low tension circuit should be complete and the coil should buzz. **The buzz of the coil should occur only when the piston is near the top. If the coil buzzes when the piston is down, the tytamper will not operate.** (Caused by timer wire grounded to handle, or timer points are in contact because of loose point on timing stem, or timing stem is binding, or one or more extra shims are needed between cylinder and timer body as roller closes gap even when roller is not on the piston cam hump.

CARBON IN EXHAUST PORT:

13. **Carbon that collects on the upper surface of the exhaust port must be removed at least once a week.** If allowed to accumulate, it will foul the gas causing hard starting and loss of power and eventually will prevent the tytamper from operating.

PISTON AND RECOIL SPRINGS:

14. These springs serve in place of a connecting rod to return the piston to the top of the stroke. If either are broken, they must be replaced. The piston spring will shrink from use but it need not be replaced unless the piston does not come up quickly enough for proper starting, the tytamper lacks power, or its overall length is 7 3/8" or less.

FREEDOM OF PISTON:

15. The piston must be perfectly free at all times. Any foreign material or burrs on piston or cylinder which causes piston to drag, must be removed.

HOW TO START BARCO UNIT TYTAMPER

Bear in mind at all times these essentials:

(a) Proper gasoline and oil mixture in the tank.

(b) A good battery and spark plug.

(c) A hot spark of at least 3/8" off the high tension wire. (See item No. 7 under "Ignition").

(d) A 3/64" lift of the fuel valve.

The "Knack" of Starting is to first "load the tytamper with an excessive charge of gas," which is accomplished by opening the needle valve excessively and priming carburetor. Then when tytamper stops and responds with only one or several explosions each time the starting rod is pushed down, place the needle valve at the correct operating position and "poke" on the starting rod until the "excess gas" is cleared out and the tytamper continues to operate.

1. Turn on switch in upper handle and push piston down about ⅛" to determine if coil buzzes but does not die down when held about 10 seconds; also that the coil does not buzz when the piston is pushed all the way down. (See paragraph 12, Page 6).
2. Open needle valve of carburetor about one turn (more in cold weather), raise fuel valve of carburetor with finger tip until gasoline drips, and then promptly push the starting rod down 4 to 6 times. Repeat prime if necessary. (With a proper gasoline mixture, no loss of compression, strong spark and good spark plug, explosions will commence within 6 quick "pokes" on the starting rod).
3. When explosions commence, bear down on handles and allow tytamper to "choke up" and stop. (An experienced operator can cut down the carburetor adjustment at the right time before the tytamper "chokes up").

   Then turn the needle valve back to the correct running adjustment and push on the starting rod until the tytamper is "cleared" of the excess gas.

   The exact correct needle valve adjustment must be located for each tytamper, but it is approximately 2 notches less than ½ turn open.

HOW TO STOP BARCO UNIT TYTAMPER

Throw over switch lever on upper handle; or hold starting rod down; or lift the mixture valve in the carburetor.

HOW TO DETERMINE IF THE TYTAMPER STOPS BECAUSE OF TOO MUCH GAS OR A LACK OF GAS

Immediately after tytamper stops, push piston down rapidly once.
If one or more explosions result, the tytamper is "too rich."
If no explosion results, the tytamper is "too lean."
Never prime carburetor when tytamper is too rich or is hot.
Always prime carburetor and open needle valve beyond the running adjustment to start when tytamper is cool.

As the tytamper warms up, the needle valve must be gradually closed or "cut down" to prevent stopping and to maintain power.

ALWAYS RUN ON THE LEANEST ADJUSTMENT THAT WILL PERMIT THE TYTAMPER TO OPERATE WITHOUT STOPPING, EITHER IN WORK OR WHEN PICKED UP.

TO APPLY A STANDARD TYTAMPING TOOL

1. Remove the two bottom nuts, then remove the tool guide casting and its associated parts [cushion spring follower (disc), cushion spring, and split hex bushing].

[The anvil, the piston spring and recoil spring can now also be removed. They should be inserted in the following order: piston spring (long), recoil spring and anvil].

2. Insert hex end of tamping bar through bottom of tool guide. Place split hex bushing on tamping bar below the upset collar and slide bar and bushing into place taking care to line up the tamping end so it is parallel with a line through the tie rod holes.
3. Place cushion spring against the split hex bushing, then place the follower on top of the spring. THE COLLARED END OF THE FOLLOWER MUST BE ON THE BOTTOM, ENGAGING THE SPRING.
4. Slide the entire unit onto the tie rods and secure with nuts evenly and snugly pulled up and cotter pinned.

TO DISMANTLE BARCO TYTAMPERS

1. Remove the bottom nuts and all internal parts except the piston can then be removed.
2. To remove the piston, take off the two top nuts, loosen the timer and guide pin and the piston can then be shaken out.

TO ASSEMBLE BARCO TYTAMPERS

REVERSE THE FOREGOING PROCEDURE.

CARE AND ADJUSTMENTS OF BARCO TYTAMPERS

1. **HOW TO FIT NEW PISTON RINGS.** Insert a ring in the cylinder about ½ inch from the end. There should be an opening between the ends of from .010 to .015 inch. (Each brass timer shim is .005 inch thick so file ends of ring until 2 shims can be inserted easily between the ends).

Then hold the ring in one hand, ends held together, and see if the ring will slip past the center punched lug and into the ring groove. (The lug is an obstruction in the ring groove to prevent the ring from turning). Roll the ring around the ring groove to determine if it will set in below the piston surface. (If ring binds, emery the sides of ring).

Remove all carbon from ring groove.

The ring can then be sprung over the end of the piston and into the ring groove.

Oil the piston, especially around the rings, before inserting in the cylinder.

THE MAIN REQUISITES OF THE PISTON RING ARE:

(a) They must be free in the ring grooves.

(b) When the piston is removed from the cylinder, the ends of the rings should be separated $\frac{1}{32}$" or more. If less than $\frac{1}{32}$", a new ring must be inserted.

(c) The rings must not turn, or the ends will spring into the ports tending to break the rings or score the cylinder.

2. **THE GUIDE PIN** must not touch the bottom of the guide pin slot on the piston. When secured, there should be a clearance at the end of about .010".

3. **CIRCUIT BREAKER (TIMER) AGH-374 (OLD TYPE):** See pp. 11 and 12.

(a) Ignition points should be separated .008"—.010". See paragraph 10 under "IGNITION," Page 5.

(b) When the starting rod is pushed down and released quickly, the buzz of the coil should be heard practically instantaneously.

(c) Circuit Breaker Stems must be perfectly free.

(d) The inner ignition point should be locked securely in the end of the "T" headed stem.

(e) The outer ignition point (contact) should be tightened well with its ¼" nut. NO ADJUSTMENTS ARE TO BE MADE HERE. Always disconnect wire at the terminal anchor plate.

NOTE: The tungsten ignition points (about .030" thick) sometimes break off. If so, the points will have a gap of about .040". In such case, a new ignition point is required.

TO ASSEMBLE CIRCUIT BREAKER (TIMER) AGH-374 (OLD TYPE): See pp. 11 and 12.

Insert the "T" headed ignition point (contact) stem into the slotted end of the roller stem. (The "T" headed stem **must** be pushed in **in exact line** with the **center of the hole** in the roller stem, otherwise it may stick in the slot in roller stem.)

Put spring over small stem and screw in the ignition point, with its jam nut.

Insert in breaker body and add roller and roller pin.

Take end housing in which an ignition point **assembly** has been inserted and **securely tightened** with the ¼" nut over insulation disc, terminal anchor plate, plain washer, and **special heavy** lock washer in the order given. When tightening up the ¼" nut the terminal anchor is used as a holding wrench and when tight this anchor should be in line with the housing cap screw lugs. Insert large spring. Attach this housing to the breaker body with the two cap screws and lock washers.

An **ignition point assembly** is an outer ignition point with the mica washer (approx. 1/32" thick) slipped over it and under its head, followed by the fibre tube, and then the metal washer **pressed** over this tube with cupped face of washer towards ignition point.

4. **CARBURETOR:**

To clean, remove needle valve and blow through needle valve opening and fuel screen. Look through needle valve opening towards light to determine that the fuel hole in the mixture valve seat is perfectly round. (If not round, insert fine wire and remove obstruction).

The Mixture Valve must seat properly, it must be perfectly free, and it should lift approximately 3/64", with a spring on top to help return it.

If the mixture valve does not seat properly, it can be detected by gasoline dripping from the carburetor when the machine is idle and in an upright position. (Grind with regular compound when necessary).

If gasoline drips from the needle valve, or the needle valve is very loose, tighten the gland nut.

As long as the stop located in the gas tank directly above the mixture valve is tight, the mixture valve will lift correctly. (Check this stop occasionally.)

5. **THE AIR SCREEN** on top of the gas tank must be reasonably clean (so you can see through easily).

6. **THE GAS TANK FILLER CAP VENT** must be open (blow through to determine).

7. **COIL:**

The coil must be kept dry.

The ignition points should separate .015" to .020" when the vibrator spring is held down against the magnet for coils in battery boxes, and about .032" for coils in separate coil boxes.

Clean the points occasionally as pitted points materially reduce the spark.

8. **IGNITION WIRE HOOK-UP:**

Two primary (low tension) wires lead through the cable to the machine. One wire (either one) is connected to the timer, the other to the switch on the handle. These same wires are connected to the battery and coil. A short wire from the battery to the coil completes the hook-up.

In back of the insulator to which the upper handle is secured is a metal plate that is required to complete the low tension circuit.

9. **TO CHANGE BATTERIES:**

Back off wing nut and lift out battery (for heavy metal encased 9 volt battery, end of battery retainer bar must rest on **HIGH** shelf). If 6—1½ volt separate cells are to be inserted the end of this bar must rest on **LOWER** shelf with wing nut backed off well. Then tighten wing nut.

10. **HOW TO TEST THE LOW TENSION CIRCUIT:**

The **"Buzz"** of the coil indicates the low tension circuit is complete; therefore, if the coil does not buzz when the piston is slowly pushed down, one of the following three troubles exist, namely:

1. The battery is dead.
2. The coil out of order.
3. The circuit is broken at some point (dirty timer points, defective switch on handle, wire broken).

To determine if the battery is dead, place any metal against one terminal and with the same metal, touch the other terminal. If a spark results, there is some life in the battery. (Such a battery will make the coil buzz and serve for locating a break in the circuit, **but it is not necessarily strong enough to run the machine).**

To determine if the coil is out of order, connect the short wire to the battery and coil, then make another contact to the other terminals of the coil and battery. Coil should buzz if the battery is not dead. If it does not buzz, the points may be "froze" together, the vibrator spring is stuck to the magnet, the points too close together or too far apart. In any case, file the points carefully to remove any pitting or dirt, clean the magnet with fine sand paper, then adjust the points so they meet evenly and separate .015" to .020" when the vibrator is held down against the magnet. (See 9 under "IGNITION", page 5 about different coils and boxes).

To determine if the circuit is broken, proceed as follows after having proved the battery has some strength.

Make a metal contact between the circuit breaker terminal connection and the cylinder. If the coil buzzes when the timer is shorted out in this manner, and it does not buzz when the piston is pushed down and the ignition points are in contact, it proves the points are dirty.

Connect the yellow primary wire coming through cable to one terminal of the battery. Hold battery close to timer and make a metal contact from the other battery terminal to the terminal connection of the circuit breaker. A spark should occur. If not, the wire is broken at some point.

Turn the switch "On," on the upper handle. Then connect one end of the other primary wire to the battery and make a metal contact to the handle from the other battery terminal. If no spark results, the switch is faulty or the wire is broken or not connected to the switch.

By contacting the handle clamp bracket to one terminal of the battery, it will similarly prove if the circuit is O.K. through the handle insulator.

(a) **CIRCUIT BREAKER (TIMER)** AGH-781 (NEW TYPE): See pp. 5-6-9.

(1) Ignition points should be separated .008"—.010". See paragraph (c) on page 12.

(2) When the starting rod is pushed down and released quickly, the buzz of the coil should be heard practically instantaneously.

(3) Circuit Breaker Stems must be perfectly free.

(4) The inner ignition point should be screwed securely into the end of the "T" headed stem.

(5) The outer ignition point (contact) should be tightened well with its ¼" nut. NO ADJUSTMENTS ARE TO BE MADE HERE. Always disconnect wire at the terminal anchor plate. This terminal plate always should be lined up with that pair of opposite flats nearest to the pair of holes on the bronze housing (see paragraph (c) on page 12), which brings the peep holes to a comfortable angle for a standing operator.

NOTE: The tungsten ignition points (about .030" thick) sometimes break off. If so, the points will have a gap of about .040". In such case, a new ignition point is required.

(b) **TO ASSEMBLE CIRCUIT BREAKER (TIMER)** AGH-781 (NEW TYPE): See pp. 5-6-9.

Insert the "T" headed ignition point (contact) stem into the slotted end of the roller stem. (The "T" headed stem must be pushed in **in exact line with the center of the hole** in the roller stem, otherwise it may stick in the slot in roller stem).

Put spring over small stem and screw in the ignition point snugly. Insert in breaker body and add roller and roller pin.

Put large spring into breaker body and over this stem.

Take bronze fixed contact housing in which an ignition point **assembly** has been inserted and **securely tightened** with the ¼" nut over insulation disc, terminal anchor plate, plain washer, and **special heavy** lock washer in the order given,—then push this assembly into the breaker body and up against the large spring and tighten the two lock screws when point gap is correct. (Be

sure that the terminal plate is lined up with that pair of opposite flats nearest to the pair of holes on bronze housing (see "e" above under "CIRCUIT BREAKER"). When tightening up the ¼" nut **the terminal anchor is used as a holding wrench).**

An **ignition point assembly** is an outer ignition point with the mica washer (approximately $\frac{1}{32}$" thick) slipped over it and under its head, followed by the fibre tube, and then the metal washer **pressed** tightly over this tube with the large diameter of washer towards ignition point.

(c) **TO ADJUST CIRCUIT BREAKER (TIMER)** AGH-781 (NEW TYPE). See pp. 5-6-9.

The circuit breaker ignition points (contacts) should be separated .008"—.010". This is regulated by loosening sufficiently the pair of locking cap screws (GH-836) and tapping (very lightly) the bronze housing (GH-782) into the circuit breaker body while holding between the points the .008" feeler gauge provided. Then tighten both locking cap screws evenly and snugly; **but not too tight.**

If desired to increase gap loosen locking screws enough and spring will force bronze housing outward. (Convenient to use cylinder studs as "holding vise" when removing or applying movable contact GH-379).

Always keep proper pair of opposite flats on bronze housing in line with slots in body housing.

(d) When the piston is pushed down slowly the outside face of the hexagon head of the movable contact (GH-379) should come out to a position which is **FLUSH** with the end of the circuit breaker body. (This is regulated with shims between the breaker body and cylinder. Removing shims makes the contact come out farther. Either make it "exactly" flush or "under" flush,— **NEVER** "over" flush).

Check this when the round bronze housing is removed by loosening locking screws as in (c). (Convenient to use any feeler gauge in pack provided as a "straight edge" to see whether to add or subtract shims).

Never disturb (except to tighten, if necessary) the ignition point (contact) bolted **permanently** into this bronze housing. **NO ADJUSTMENTS MADE HERE.**

FINAL IMPORTANT CHECK is to push piston down against anvil (or nearly so) and be **SURE** that this does not **REDUCE** the contact gap more than several thousandths.

(e) When the timer points are in contact, the low tension circuit should be complete and the coil should buzz. **The buzz of the coil should occur only when the piston is near the top. If the coil buzzes when the piston is down, the tytamper will not operate.** (Caused by timer wire grounded to handle, or timer points are in contact because of loose point on timing stem, or timing stem is binding, or one or more extra shims are needed between cylinder and timer body as roller closes gap even when roller is not on the piston cam hump).

WARNING

Do not operate Barco Unit Tytampers inside of buildings without good ventilation as the exhaust gases are dangerous. The same applies to work in mines, tunnels, etc.