

PARTS PRICE LIST
For
OVERHEAD CAMSHAFT OUTFITS
Models "O-R" and "O-S-R"

Part No.	Name	No. Required	Price Each
O-1	Camshaft	1	\$70.00
O-2	Camshaft Bracket with caps and studs	1	40.00
O-3	Chain Housing (lower)	1	30.00
O-4	Chain Housing (upper)	1	18.00
O-5	Camshaft Cover	1	15.00
O-6	Chain Housing Cover (lower)	1	15.00
O-7	Chain Housing Cover (upper)	1	6.00
O-8	Camshaft Bearing Cap (front)	1	1.00
O-9	Camshaft Bearing Caps (center and rear)	2	1.00
O-11	Driving Chain (Diamond)	1	15.00
O-12	Upper Sprocket	1	12.00
O-13	Lower Sprocket	1	12.00
O-14	Idler Sprocket	1	10.00
	Idler Assembly	1	30.00
O-33	Eccentric Body	1	10.00
O-34	Eccentric Body Nut	1	3.00
O-35	Eccentric Body Shaft	1	5.00
	Idler Ball Bearing	1	5.00
O-15	Lower Sprocket Shaft	1	10.00
O-15A	Lower Sprocket Shaft for two oil pumps	1	12.00
O-17	Water Outlet	1	3.00
O-18	Valve Cup	8	4.00
O-21	Oil Pump Pad Stud	5	.30
O-22	Camshaft Cover Stud	2	.20
O-25	Camshaft Bearing Stud	8	.30
O-28	Chain Housing Cover Stud	18	.20
O-31	Lower Sprocket Nut	1	1.00
O-32	Lower Sprocket Nut Washer	1	.30
O-33	Lower Sprocket Shaft Key	1	.20
O-37	Water Outlet Stud	2	.30
S-R-1	Cylinder Head Casting Machined with Valve Guides	1	60.00
X-10	Valve Guides	8	.60
S-R-6	Valve (exhaust)	4	3.00
S-R-6A	Valve (intake)	4	2.50
R-7	Valve Spring Cap	8	1.00
R-8	Valve Spring Cap Lock	8	.30
X-13	Valve Spring (outer)	8	.30
DO225	Valve Spring (inner)	8	.30
O-36	Cylinder Head Stud	10	1.00
X-3	Cylinder Head Gasket	1	1.50
229	Intake Elbow for two separate carburetors	2	3.00
229-A	Intake Manifold for single vertical carburetor	1	20.00
229-B	Intake Manifold for 1 3/4" inverted Winfield carburetor	1	25.00
228-A	Zenith Carburetor, 1 1/2"	1	35.00
228	Winfield Carburetor, 1 1/2"	1	35.00
228	Winfield Carburetor, 1 3/4"	1	55.00
232-A	Exhaust Manifold	1	30.00
235-A	Special Camgear to Fit Lower Sprocket Shaft	1	10.00
O-16	Lower Sprocket Shaft Ball Bearing	1	6.00
O-2-A	Camshaft Bracket with caps and studs for Model "R" head	1	40.00
R-1	Model "R" cylinder head casting, machined	1	50.00

TO REMEMBER WHEN ORDERING.

When ordering, to avoid errors, give both part number and name, as shown in list of parts required. Specify method of shipment. Send 25% of purchase price with order, balance C. O. D. This will save time and delays.

A handling charge of 10% will be made on all merchandise returned for credit. Do not return any material without our consent.

INSTRUCTION BOOK

and

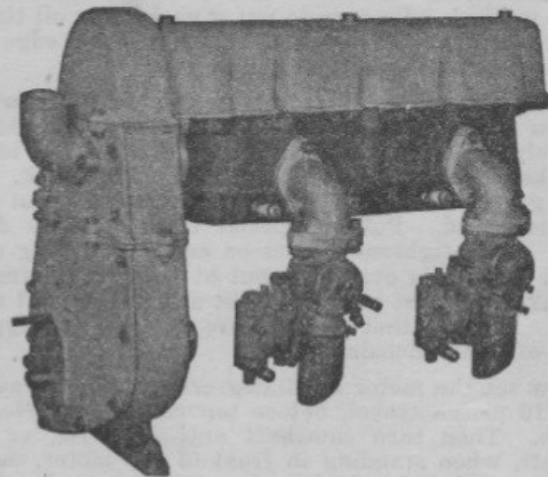
PARTS PRICE LIST

for the

FRONTY MODEL O-R AND O-S-R

Eight Valve

Overhead Camshaft Cylinder Head



For Ford Racing Cars

APRIL 15, 1929

Manufactured by

**ARTHUR CHEVROLET
AVIATION MOTORS CORPORATION
410 West Tenth Street**

Formerly

Chevrolet Bros. Mfg. Co.
INCORPORATED
INDIANAPOLIS, IND

INSTRUCTIONS FOR INSTALLING AND TAKING CARE OF MODEL O-S-R AND O-R 8-VALVE CYLINDER HEADS

First make sure that top face of cylinder block is clean and level and that there is no metal raised around bolt holes. Watch this on old blocks especially.

Put regular Ford front camshaft bearing in place. Put special cam gear on driving shaft and put this in place.

Next install lower chain housing on front face of cylinder block. Holes in this housing will match holes in block. Be sure to put a gasket for oil tight joint. Also put gasket and bolts on lower edge to crankcase.

Next put driving sprocket on driving shaft with key in place. Put on washer and nut and tighten securely. Next put chain on over driving and idler sprockets. Next screw studs in cylinder block, install gasket. Be sure gasket is clean, and put on cylinder head. Put on special thick washers and nuts. Start tightening nuts on center, working out to the ends. Go over each nut at least three times, to make sure that nuts are tight and gasket will not blow. Be sure that gaskets are in place on upper edge of chain housing.

Now set the motor at 10 degrees fly wheel travel, or 1/16 piston travel, before top center, on No. 1 piston. Then turn camshaft anti-clockwise, or to the left, when standing in front of the motor, until intake cam just hits valve plunger. Put chain over upper sprocket. Then set idler to proper chain tension and tighten lock nut on idler. If timing does not come exactly right, loosen 3 cap screws which hold upper sprocket to camshaft, which has slotted holes, and move upper sprocket back or forward, as necessary, to get timing right.

The proper timing is as follows: Clearance between cup and heel of cam .030. Intake opens 10 degrees fly wheel travel, or 1/16 piston travel, before top center. Exhaust closes 10 degrees to 12 degrees fly wheel travel, or 1/16 to 3/32 piston travel, after top center.

Ignition Timing

Firing order on this head is 1—3—4—2.

All of this checking should be done on No. 1 cylinder and while motor is in position, magneto should be set to be firing on No. 4 cylinder. The best setting for the magneto is 32 degrees fly wheel travel, or 7/16 piston travel, at full advance position. This is all that is necessary, any more spark advance than this will work against motor, making it heat up, breaking crankshafts, breaking rear axle gears, blowing out cylinder head gaskets, etc. After motor is timed correctly, go over cylinder head studs again to make sure they are tight. Put on cam cover, chain housing cover, and bolt everything tight, mak-

ing sure that all gaskets are in place. Mount oil pump on lower chain cover. Make oil connections from main feed line to idler and oil connection from gauge line to cylinder head, and from cylinder head, (at back end), to pressure gauge.

NOTE: A couple of guns full of oil should be put in the head and camshaft to make sure that camshaft will be lubricated as soon as motor starts. We recommend that nothing be used except pure Castor Oil for successful operation of this cylinder head.

Then make oil drain connection from rear of cylinder head to crankcase.

Grinding of Valves and Clearance Adjustments

When it becomes necessary to regrind the valves in the head, and perhaps reface the seats, proceed as follows: Take off oil pump, take off chain housing cover, loosen idler lock nut. Slip chain over upper sprocket. Take off camshaft cover. Take off cylinder head stud nuts, loosen them all about 1 turn, then loosen them entirely. Take off head. Then take off camshaft, then take valves out and set them with cups and springs on a special board with holes for the valves and nails for the cups and springs, to keep them in order.

Reface the valve seats if necessary, then grind valves in head. When valves are all ground, mount camshaft bracket on cylinder head with paper gasket in place and clamp bracket on head with bolts or clamps. Put in all valve cups in their right places, put on camshaft. Then insert valve in place and hold firmly on seat while checking clearance between cup and heel of cam. This should be .030. If it is less than this amount, from grinding valve, grind or file the right amount off the valve stem to get the right clearance. Be careful not to take too much, although a variation of .002 to .004 either way is permissible without hurting the motor. More than this, however, may show a decrease in speed and power. When all valves have been spaced correctly, reassemble everything as per above instructions.

When motor is first started, it should be run slowly for about 15 minutes, then camshaft cover should be taken off and cylinder head studs tightened to prevent cylinder head gasket from blowing out. All racing motors should be warmed up for about 15 to 20 minutes before attempting any speed, as this allows the oil to warm up and circulate and will prevent any burned out bearings, stuck pistons, scored cylinders, etc.

Carburetion

The mixture in a racing motor should be rich enough to keep the exhaust valves, spark plugs, and combustion chamber almost black. Too lean a mixture may accelerate faster than a rich mixture, but it is liable to warp the valves or crack the head and burn holes in the pistons, also cause pre-ignition. It is better to keep on the rich side, as, although it may not accelerate as fast as a lean mixture, it will give higher top speed and be much safer.