



IGNITION TIMING FOR PREMIER GRADE PETROLS

To derive the benefit of improved engine performance and petrol consumption from the new premier grades of petrol, slight adjustment of the ignition timing may be necessary.

One method of determining the most suitable setting is to drain the petrol tank and fill with sufficient "Pool" petrol for a test run; then with the engine hot, proceed to climb a steep gradient at 30-35 M.P.H. in top gear. As the speed of the vehicle fall to 25 M.P.H. pinking should occur, and become more pronounced as the speed falls to 20 M.P.H. If pinking does not occur at these speeds then the ignition timing should be advanced to create this condition. Having achieved this, then the setting will be approximately correct when using a premier grade petrol, when no pinking should occur.

Other methods of setting the ignition timing involve adjustment of the distributor until maximum power is obtained from the engine. This can be determined by measuring accelerations or timing the ascent of a hill until the maximum is reached.

It is realized that it may not always be convenient to make adjustments during a road test and, to enable some degree of accuracy to be obtained by "static" adjustment, a table of ignition settings is given.

Side valve engines will, in all probability, need no advancement of the ignition timing.

It must be clearly understood that to over advance the timing can have serious repercussions to engine and starter motor.

STATIC IGNITION SETTING

Model	Recommended setting. STANDARD fuel		Recommended setting. PREMIER fuel	
	Degrees before T.D.C. (Crankshaft)	Inches on fly- wheel periphery before T.D.C.	Degrees before T.D.C. (Crankshaft)	Inches on fly- wheel periphery before T.D.C.
A30	6	33/64"	11	15/15"
A40	3	19/64"	8	25/32"
A40 Sports	2	3/16"	7	11/16"
A70	5	9/16"	10	1 9/64"
A90	6	11/16"	11	1 1/4"
A125 & A135	4 1/2	17/32"	9	1 3/4"
Taxi	7 1/2	49/64"	11	1 1/8"
Hire Car	6	39/64"	11	1 1/8"

TORQUE WRENCH LOADINGS

Torque figures necessary for tightening the major nuts and bolts securing engine and chassis parts of cars and commercial vehicle will be published as the details are established. The chart gives the torque loadings and the dimensions of the setscrew or bolt concerned.

No definite torque figure can always be given because variances occur with different types of thread; for example, rolled, machined or ground. Material differences, and oiled or dry threads,

also have a direct influence on the load necessary to tighten a particular bolt or setscrew.

No responsibility can be taken where substitute setscrews, bolts or nuts are used, as these may not be of the material used in genuine Austin parts.

All torque wrenches must be checked against a master wrench periodically; otherwise, recommended readings will not be maintained.

Application	A30			A40			A70			A125, A135			Page
	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	
ENGINE AND CLUTCH													
Main bearing cap setscrews	7/16" B.S.F.	24	60-65										16
Connecting rod big end setscrews	3/8" A.N.F.	24	33-35	3/8" A.N.F.	24	33-35							16
Connecting rod small end clamping screw	5/16" U.N.F.	24	23-25	15/16" B.S.F.	22	23-25	3/8" B.S.F.	20	30-33	3/8" B.S.F.	20	30-33	16
Front cover setscrews	5/16" U.N.F.	24	20										16
Front mounting plate setscrews	5/16" U.N.F.	24	20				3/8" B.S.F.	20	35-40	3/8" B.S.F.	20	35-40	16
Rear mounting plate setscrews	5/16" U.N.F.	24	20				3/8" B.S.F.	20	30-35	3/8" B.S.F.	20	30-35	16
Flywheel bolts to crankshaft	3/8" U.N.F.	24	33-35	3/8" B.S.F.	20	30-35	3/8" B.S.F.	20	30-35	3/8" B.S.F.	20	30-35	16
Cylinder head studs in cylinder block	3/8" U.N.F.	24	35-40	3/8" B.S.F.	20	30-35	7/16" B.S.F.	18	65-70	7/16" B.S.F.	18	65-70	16
Camshaft gear setscrews to camshaft				5/16" B.S.F.	22	20							16
Oil filter bolts to crankcase							3/8" B.S.F.	20	35-40				17
Engine support bracket bolts to front plate							3/8" B.S.F.	20	30-35				17
Dynamo bolt to bracket - front							5/16" B.S.F.	22	20-22				17
Dynamo bolt to bracket - rear							5/16" B.S.F.	22	20	5/16" B.S.F.	20	20	17
Dynamo bracket setscrew to crankcase										5/16" B.S.F.	20	20	17
FRONT AXLE OR FRONT SUSPENSION													
Swivel axle pin nut	7/16" U.N.F.	20	50-55	9/16" B.S.F.	16	83-88	9/16" B.S.F.	16	83-88				17

Application	A30			A40			A70			A125, A135			Page
	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	
Steering side tube lever setscrews to swivel axle	3/8" U.N.F.	24	40-45	3/8" B.S.F.	20	40-45	3/8" B.S.F.	20	40-45				17
Brake backplate setscrews to swivel axle	5/16" U.N.F.	24	28-30	3/8" B.S.F.	20	40-45	3/8" B.S.F.	20	40-45				17
Shock absorber arm clamping bolt				3/8" B.S.F.	20	33-36	3/8" B.S.F.	20	33-36				18
REAR AXLE													
Crown wheel setscrews	5/16" U.N.F.	24	28-30	3/8" B.S.F.	20	40-45	3/8" B.S.F.	20	40-45				18
Gear carrier setscrews to axle case	5/16" U.N.F.	24	20-22	5/16" B.S.F.	22	20-22	5/16" B.S.F.	22	20-22				18
Gear carrier cap studs	7/16" U.N.F.	20	50-55	7/16" B.S.F.	18	50-55	7/16" B.S.F.	18	50-55				18
Bevel Pinion flange nut	3/4" U.N.F.	16	140-150	3/4" B.S.F.	14	140-150	3/4" B.S.F.	14	140-150				18
Backplate bolts to axle case	5/16" U.N.F.	24	22-28	3/8" B.S.F.	20	40-45	3/8" B.S.F.	20	40-45				18
Brake balance lever support bolts to axle case	5/16" U.N.F.	24	18-20	5/16" B.S.F.	22	20-22	5/16" B.S.F.	22	20-22				18

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	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	
Further to the article appearing in this Journal, Volume 23, section "Repairs Data", page 15, further Torque figures necessary for fully tightening the bolts and setscrews securing engine and chassis parts are as follows.													
ENGINE AND CLUTCH													
Engine Front Mounting Bracket Setscrews to frame				5/16" B.S.F.	22	22-28	3/8" B.S.F.	20	40-45				19
Starting Handle Bracket Setscrews to frame							5/16" B.S.F.	22	22-28				19
Starter Bolts to engine mounting plate or gearbox	3/8" U.N.F.	24	25-26	3/8" B.S.F.	20	25-26	3/8" B.S.F.	20	25-26				19
Clutch Cover Setscrews to flywheel	5/16" U.N.F.	24	20-21	5/16" B.S.F.	22	20-21	5/16" B.S.F.	22	20-21				19
Clutch Pedal Shaft Bracket Bolts to frame				5/16" B.S.F.	22	20-22	5/16" B.S.F.	22	22-28				19
GEARBOX													
Gearbox Bolts or Setscrews to mounting plate (engine)	5/16" U.N.F.	24	20-21	5/16" B.S.F.	22	20-21	3/8" B.S.F.	20	25-26				19
Rear Cover Setscrews to case	1/4" U.N.F.	28	16-17	5/16" B.S.F.	22	20-21	5/16" B.S.F.	22	20-21				20
Side Cover Setscrews to case	1/4" U.N.F.	28	16-17	5/16" B.S.F.	22	20-21	5/16" B.S.F.	22	20-21				20
Third Motion Shaft Nut (propeller shaft flange)							3/4"		140-150				20
Gearbox Mounting Support or Bracket Bolts to frame				5/16" B.S.F.	22	22-28							20
Engine Stay Rod Bracket Setscrews to rear cover							5/16" B.S.F.	22	22-28				20
Engine Stay Rod Cross Member Bolts to frame				5/16" B.S.F.	22	20-22	5/16" B.S.F.	22	22-28				20
Change Speed Control Support Bracket Setscrews to frame				5/16" B.S.F.	22	22-28	5/16" B.S.F.	22	22-28				20
CHASSIS													

Application	A30			A40			A70			A125, A135			Page
	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	Dia.	T.P.I.	Torque lb/ft.	
Rear Shock Absorber Bolts to frame				3/8" B.S.F.	20	40-45	7/16" B.S.F.	18	50-55				20
Rear Spring Pin Nuts							7/16" B.S.F.	18	50-55				21
Rear Spring Clip Nuts							3/8" B.S.F.	20	40-45				21
Front Shock Absorber Setscrews to frame				3/8" B.S.F.	20	40-45	3/8" B.S.F.	20	40-45				21
Front Suspension Rebound Buffer Setscrews to frame							1/4" B.S.F.	26	16-20				21
STEERING													
Idler Setscrews to frame				3/8" B.S.F.	20	40-45	3/8" B.S.F.	20	40-45				21
Steering Box Bracket Setscrews to frame							3/8" B.S.F.	20	40-45				21
HAND AND FOOT BRAKE CONTROLS													
Handbrake Lever Support Bracket Setscrews to frame				5/16" B.S.F.	22	22-28	5/16" B.S.F.	22	22-28				21
Brake Rod Swing Link Bracket Setscrews to frame				5/16" B.S.F.	22	22-28	5/16" B.S.F.	22	22-28				22
Foot Brake Pedal Shaft Bracket Setscrews to frame				5/16" B.S.F.	22	22-28	5/16" B.S.F.	22	22-28				22
Master Cylinder Setscrews to frame				5/16" B.S.F.	22	22-28	5/16" B.S.F.	22	22-28				22
Brake Pipe 3-way Connection Setscrews							5/16" B.S.F.	22	22-28				22
RADIATOR													
Radiator Setscrews to support bracket							3/8" B.S.F.	20	40-45				22
CAR BUMPERS													
Front and REAR Bumper Spring Bar Setscrews to frame							3/8" B.S.F.	20	40-45				22