

VALVE LIFT READINGS

6-12-66

750 cc INTERCEPTOR ENGINE WITH IN CAMSHAFT W. 35344,

EX CAMSHAFT W. 35345 & IN SPROCKET W. 42507

(AS SUPPLIED TO AMERICA 1966)

INLET

320	0	30	146	100	314	170	262	240	42
325	1	35	162	105	318	175	248	245	31
330	3.5	40	181	110	320	180	234	250	22
335	7	45	198	115	322	185	220	255	14
340	13	50	214	120	322	190	204	260	9
345	20	55	228	125	322	195	188	265	4
350	29	60	242	130	320.5	200	171	270	2
355	39	65	255	135	317	205	153	275	.5
360	51	70	267	140	313	210	135	280	0
5	63	75	278	145	307	215	117		
10	78	80	288	150	300	220	100		
15	92	85	296	155	293	225	83		
20	109	90	303	160	284	230	68		
25	127	95	309	165	273	235	54		

EXHAUST

85	0	165	182	245	315	325	194	45	2
90	1	170	198	250	315	330	178	50	0
95	5	175	214	255	315	335	162		
100	11	180	228	260	313	340	146		
105	18	185	240	265	310	345	129		
110	26	190	252	270	306	350	112		
115	35	195	263	275	301	355	96		
120	44	200	273	280	295	360	80		
125	56	205	282	285	288	5	66		
130	68	210	290	290	280	10	53		
135	84	215	297	295	269	15	42		
140	100	220	302	300	258	20	32		
145	116	225	307	305	247	25	23		
150	132	230	311	310	236	30	15		

(AS SUPPLIED TO AMERICA 1966)

INLET

320	0	30	146	100	314	170	262	240	42
325	1	35	162	105	318	175	248	245	31
330	3.5	40	181	110	320	180	234	250	22
335	7	45	198	115	322	185	220	255	14
340	13	50	214	120	322	190	204	260	9
345	20	55	228	125	322	195	188	265	4
350	29	60	242	130	320.5	200	171	270	2
355	39	65	255	135	317	205	153	275	.5
360	51	70	267	140	313	210	135	280	0
5	63	75	278	145	307	215	117		
10	78	80	288	150	300	220	100		
15	92	85	296	155	293	225	83		
20	109	90	303	160	284	230	68		
25	127	95	309	165	273	235	54		

EXHAUST

85	0	165	182	245	315	325	194	45	2
90	1	170	198	250	315	330	178	50	0
95	5	175	214	255	315	335	162		
100	11	180	228	260	313	340	146		
105	18	185	240	265	310	345	129		
110	26	190	252	270	306	350	112		
115	35	195	263	275	301	355	96		
120	44	200	273	280	295	360	80		
125	56	205	282	285	288	5	66		
130	68	210	290	290	280	10	53		
135	84	215	297	295	269	15	42		
140	100	220	302	300	258	20	32		
145	116	225	307	305	247	25	23		
150	132	230	311	310	236	30	15		
155	150	235	313	315	222	35	9		
160	166	240	315	320	208	40	5		

TAPPET LIFT READINGS

7-12-66

750 cc INTERCEPTOR ENGINE WITH 2 CAMSHAFTS W. 32705 & IN. SPROCKET W 36140

INLET

275	0	345	38	55	239	125	312	195	159	265	12
280	1	350	48	60	250	130	308	200	142	270	11
285	2	355	60	65	262	135	303	205	125	275	10
290	4	360	74	70	272	140	297	210	108	280	9
295	6	5	89	75	281	145	289	215	92	285	8
300	8	10	105	80	289	150	281	220	76	290	7
305	10	15	123	85	297	155	271	225	61	295	6
310	11	20	138	90	303	160	262	230	50	300	5
315	11.5	25	155	95	308	165	248	235	40	305	4
320	13	30	170	100	312	170	234	240	31	310	3
325	14	35	185	105	314	175	221	245	25	315	2
330	19	40	200	110	315	180	206	250	20	320	1
335	24	45	214	115	315	185	191	255	16	325	0
340	30	50	228	120	314	190	175	260	14		

EXHAUST

45	0	125	63	205	291	285	270	5	35	85	1.5
50	1	130	75	210	298	290	257	10	27	90	1
55	2	135	91	215	305	295	245	15	22	95	0
60	3.5	140	107	220	310	300	232	20	18		
65	5	145	125	225	314	305	218	25	15		
70	6.5	150	142	230	316	310	203	30	13		
75	7.5	155	158	235	318	315	187	35	12		
80	9	160	176	240	318	320	171	40	10		
85	10	165	192	245	318	325	153	45	9		
90	12	170	208	250	317	330	135	50	8		
95	14	175	222	255	314	335	118	55	7		
100	18	180	236	260	310	340	99	60	5.5		
105	23	185	250	265	304	345	83	65	4		
110	30	190	262	270	297	350	67	70	3.5		

INLET

275	0	345	38	55	239	125	312	195	159	265	12
280	1	350	48	60	250	130	308	200	142	270	11
285	2	355	60	65	262	135	303	205	125	275	10
290	4	360	74	70	272	140	297	210	108	280	9
295	6	5	89	75	281	145	289	215	92	285	8
300	8	10	105	80	289	150	281	220	76	290	7
305	10	15	123	85	297	155	271	225	61	295	6
310	11	20	138	90	303	160	262	230	50	300	5
315	11.5	25	155	95	308	165	248	235	40	305	4
320	13	30	170	100	312	170	234	240	31	310	3
325	14	35	185	105	314	175	221	245	25	315	2
330	19	40	200	110	315	180	206	250	20	320	1
335	24	45	214	115	315	185	191	255	16	325	0
340	30	50	228	120	314	190	175	260	14		

EXHAUST

45	0	125	63	205	291	285	270	5	35	85	1.5
50	1	130	75	210	298	290	257	10	27	90	1
55	2	135	91	215	305	295	245	15	22	95	0
60	3.5	140	107	220	310	300	232	20	18		
65	5	145	125	225	314	305	218	25	15		
70	6.5	150	142	230	316	310	203	30	13		
75	7.5	155	158	235	318	315	187	35	12		
80	9	160	176	240	318	320	171	40	10		
85	10	165	192	245	318	325	153	45	9		
90	12	170	208	250	317	330	135	50	8		
95	14	175	222	255	314	335	118	55	7		
100	18	180	236	260	310	340	99	60	5.5		
105	23	185	250	265	304	345	83	65	4		
110	30	190	262	270	297	350	67	70	3.5		
115	39	195	273	275	289	355	55	75	2.5		
120	51	200	283	280	280	360	43	80	2		

VALVE LIFT READINGS

7-12-66

750 cc INTERCEPTOR ENGINE WITH 2 CAMSHAFTS W.32705 & IN SPROCKET W.36160

INLET

310	0	20	122	90	288	160	248	230	40
315	.5	25	138	95	293	165	235	235	30
320	2	30	152	100	298	170	222	240	22
325	4	35	168	105	301	175	209	245	15
330	6	40	182	110	302	180	195	250	10
335	10.5	45	196	115	303	185	180	255	6
340	16	50	209	120	302	190	164	260	4
345	25	55	222	125	300	195	147	265	3
350	35	60	234	130	296	200	132	270	2
355	46	65	245	135	290	205	114	275	1
360	58	70	255	140	284	210	98	280	0
5	73	75	264	145	276	215	80		
10	89	80	273	150	267	220	65		
15	105	85	280	155	258	225	51		

EXHAUST

55	0	135	80	215	289	295	234	15	17
60	.5	140	96	220	295	300	220	20	13
65	1.5	145	111	225	298	305	207	25	10
70	3	150	128	230	301	310	192	30	8
75	4	155	143	235	303	315	177	35	6
80	5	160	160	240	303	320	163	40	5
85	6	165	176	245	303	325	146	45	4
90	7.5	170	191	250	302	330	129	50	3
95	9.5	175	206	255	300	335	111	55	2.5
100	13	180	221	260	296	340	94	60	2
105	18	185	234	265	290	345	78	65	1.5
110	24	190	246	270	284	350	63	70	.5
115	32	195	257	275	276	355	50	75	0
120	41	200	266	280	267	360	39		

INLET

310	0	20	122	90	288	160	248	230	40
315	.5	25	138	95	293	165	235	235	30
320	2	30	152	100	298	170	222	240	22
325	4	35	168	105	301	175	209	245	15
330	6	40	182	110	302	180	195	250	10
335	10.5	45	196	115	303	185	180	255	6
340	16	50	209	120	302	190	164	260	4
345	25	55	222	125	300	195	147	265	3
350	35	60	234	130	296	200	132	270	2
355	46	65	245	135	290	205	114	275	1
360	58	70	255	140	284	210	98	280	0
5	73	75	264	145	276	215	80		
10	89	80	273	150	267	220	65		
15	105	85	280	155	258	225	51		

EXHAUST

55	0	135	80	215	289	295	234	15	17
60	.5	140	96	220	295	300	220	20	13
65	1.5	145	111	225	298	305	207	25	10
70	3	150	128	230	301	310	192	30	8
75	4	155	143	235	303	315	177	35	6
80	5	160	160	240	303	320	163	40	5
85	6	165	176	245	303	325	146	45	4
90	7.5	170	191	250	302	330	129	50	3
95	9.5	175	206	255	300	335	111	55	2.5
100	13	180	221	260	296	340	94	60	2
105	18	185	234	265	290	345	78	65	1.5
110	24	190	246	270	284	350	63	70	.5
115	32	195	257	275	276	355	50	75	0
120	41	200	266	280	267	360	39		
125	52	205	275	285	257	5	30		
130	66	210	283	290	245	10	22		

INLET TAPPET READINGS

265	0	335	26.5	45	233	115	299	185	135	255	10
270	.5	340	35	50	245	120	295	190	117	260	9
275	1.5	345	45	55	256	125	289	195	99	265	7
280	3	350	56	60	266	130	283	200	81	270	6
285	3.5	355	70	65	275	135	275	205	66	275	5
290	5	360	86	70	282	140	266	210	53	280	4
295	6.5	5	102	75	289	145	255	215	42	285	2
300	7.5	10	121	80	295	150	244	220	33	290	1
305	9	15	139	85	299	155	231	225	26	295	0
310	10.5	20	157	90	301.5	160	217	230	21		
315	12.5	25	174	95	303.5	165	203	235	17		
320	15	30	190	100	304	170	188	240	15		
325	17	35	206	105	304	175	170	245	13		
330	21	40	220	110	302	180	153	250	11		

INLET VALVE READINGS

280	0	355	63	70	276	145	253	220	32
285	.5	360	77	75	283	150	240	225	24
290	2	35	93	80	288	155	227	230	19
295	3	10	112	85	293	160	214	235	16
300	4	15	129	90	297	165	200	240	14
305	6	20	147	95	299	170	184	245	12
310	7.5	25	164	100	300	175	168	250	10
315	10	30	180	105	300	180	152	255	8.5
320	12	35	195	110	299	185	132	260	7.5
325	14	40	210	115	296	190	114	265	6.5
330	17	45	223	120	292	195	95	270	5.5
335	22	50	236	125	286	200	79	275	4.5
340	30	55	248	130	279	205	65	280	3

Interceptor Piston Rings

Received 20-12-66

6 TAPERED COMP RINGS. IN H & Q 22 Metl.
2.7918" x .0635" 3-083 m/m. Butt joints.
.0625" x 2-883

Our Order N° AM 4604

H&Q Packing Note MAN 012534

H&Q Dwg N° C 16813

H&Q Ref N° MTP 20883^{???} Std size.

1968 INTERCEPTOR (NEW CRANKCASES)

22-2-67

TACHOMETER G/Box BQ 1508/01

" HEAD AS ~~RSM 3004/02A EXCEPT COUNTERCLOCKWISE ROTATION~~

" CABLE AS 1967 MODEL

→ RSM 3002/01 (4/1 clockwise - Snap Fixing 0-10,000)

Tiny Stud Fixing, clockwise, 0-8000 Part N°?

6 TAPERED COMP RINGS. IN H G 22 Matl.

2.7918" x .0635" 3-083 m/m. Butt joints.
.0625" x 2-883

Our Order N° AM 4604

H&G Packing Note MAN 012534

H&G Dwg N° C 16813

H&G Ref N° MTP 20^{???}883 Std size.

1968 INTERCEPTOR (NEW CRANKCASES)

22-2-67

TACHOMETER G/Box B G 1508/01

" HEAD AS ~~RSM 3004/02A EXCEPT COUNTERCLOCKWISE ROTATION~~

" CABLE AS 1967 MODEL

→ RSM 3002/01 (4/1 clockwise - Strip Fixing 0-10,000)

Try Std fixing, clockwise, 0-8000 Part N°?

VALVE LIFT READINGS.

23-2-67

TIMING SIDE

750cc INTERCEPTOR ENGINE WITH PROTOTYPE CAMSHAFTS - INLET W49624 & EX W49625
& INLET SPROCKET W.41935

INLET

270	0	345	46	60	289	135	338	240	133	285	5.5
275	-5	350	59.5	65	299.5	140	331	215	113	290	4.5
280	1	355	74	70	309	145	324	220	95	295	3.5
285	2	360	90	75	317.5	150	315	225	78	300	3
290	3	5	107.5	80	325	155	306	230	62	305	2
295	4	10	126.5	85	332	160	294	235	48	310	1
300	5	15	146.5	90	338	165	282.5	240	37	315	-5
305	5.5	20	165	95	342.5	170	269	245	27.5	320	0
310	7	25	183	100	346	175	255	250	20.5		
315	8	30	201	105	348	180	240	255	15.5		
320	10.5	35	218	110	350	185	224	260	12		
325	14	40	234	115	350	190	207.5	265	9.5		
330	18.5	45	250	120	349	195	190	270	8		
335	26	50	264	125	346.5	200	171	275	7		
340	35	55	277.5	130	343	205	152.5	280	6		

EXHAUST

50	0	125	44.5	200	289	275	339	350	140	65	8
55	-5	130	57	205	300	280	333	355	121	70	7
60	1	135	71	210	310	285	326	360	102	75	6.5
65	2	140	86	215	319.5	290	318	5	85	80	5.5
70	3	145	105	220	327.5	295	308	10	69	85	4.5
75	4.5	150	123	225	334	300	298	15	55	90	3
80	5.5	155	142	230	340	305	286	20	43	95	2
85	6.5	160	162.5	235	344	310	273	25	34	100	1
90	7.5	165	180	240	347	315	260	30	26	105	.5
95	9	170	198	245	349	320	244	35	20	110	0
100	11	175	216	250	350	325	229	40	16		
105	14	180	231.5	255	350	330	213	45	13		
110	18	185	248	260	349.5	335	195	50	11.5		
115	25	190	263	265	347	340	177	55	10		

VALVE LIFT READINGS

23-2-67

DRIVING SIDE

750 cc INTERCEPTOR ENGINE WITH PROTOTYPE CAMSHAFTS - INLET W 49124 & EX W 49125

& INLET SPROCKET W. 41935

INLET

150	0	295	9	10	132	85	341	160	298	235	49.5	310	.75
225	.5	300	10	15	151	90	346	165	286	240	38	315	.5
230	.5	305	11	20	169.5	95	350	170	273	245	28	320	0
235	.5	310	12.5	25	188.5	100	352.5	175	258	250	21		
240	.75	315	14	30	205.5	105	354	180	242.5	255	16		
245	.75	320	16	35	223	110	354.5	185	226	260	12.5		
250	1	325	19.5	40	240	115	354.5	190	209	265	10		
255	1	330	24	45	255.5	120	353.5	195	191	270	8.5		
260	1	335	30.5	50	270	125	351	200	172.5	275	7.5		
265	1.5	340	39	55	283.5	130	347.5	205	154	280	6.5		
270	2	345	50	60	295.5	135	342	210	134	285	5.5		
275	3.5	350	63	65	307	140	336	215	114	290	4.5		
280	5.5	355	78	70	317.5	145	329	220	96	295	3.5		
285	7	360	95	75	327	150	320	225	79	300	2.5		
290	8	5	113.5	80	334.5	155	309.5	230	63.5	305	1.5		

EXHAUST

40	0	115	26	190	266	265	353.5	340	179.5	55	6		
45	.5	120	34	195	280	270	350	345	160	60	5		
50	1.5	125	45	200	293	275	345	350	140	65	4		
55	2.5	130	57.5	205	305	280	340	355	121	70	3		
60	3.5	135	71.5	210	315	285	332	360	102	75	2.5		
65	5	140	87.5	215	325	290	324	5	84	80	2		
70	6	145	105	220	333	295	314	10	68	85	1		
75	7	150	122.5	225	340	300	303	15	54	90	.5		
80	8	155	142.5	230	345.5	305	290	20	41	95	0		
85	9	160	163	235	350	310	278	25	30				
90	10	165	181.5	240	353	315	264	30	22.5				
95	11	170	199.5	245	355	320	248	35	16				
100	13	175	217	250	356	325	232	40	12				
105	15.5	180	234	255	356	330	215.5	45	10				

DYNAMOMETER READINGS.

1-3-67

736cc INTERCEPTOR WITH PROTOTYPE CAMSHAFTS,

INLET CAMSHAFT, W49624, EX CAMSHAFT W49625, IN SPROCKET W41935

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T

CONCENTRIC CARBS R 930/3 & L 930/4

CLUTCH " 56T

220 MAIN JETS

FINAL DRIVE " 20T.

U.S.A TYPE PIPES & SILENCERS.

BRAKE " 20T

TAPPET CLEARANCES IN .006, EX .007

R.P.M.	FIRST RUN 9.30 AM.				SECOND RUN 12.00 AM.			
	LBS	BHP	+10%	LBS/FT TORQUE	LBS	BHP	+10%	LBS/FT TORQUE
2250	54	14	15.4	35.9	54	14	15.4	35.9
500	54	15.6	17.2	35.9	56	16.1	17.7	37.2
750	55.5	17.6	19.4	36.9	57.5	18.4	20.2	38.2
3000	56.5	19.5	21.5	37.6	58	20	22	38.6
250	57.5	21.5	23.7	38.2	59	22	24.2	39.3
500	58	23.4	25.7	38.6	60.5	24.4	26.8	40.2
750	59.5	25.6	28.2	39.6	61	26.3	28.9	40.6
4000	59.5	27.4	30.1	39.6	61	28.1	30.9	40.6
250	59.5	29.1	32	39.6	60.5	29.6	32.6	40.2
500	58	30	33	38.6	60	31	34.1	39.9
750	58	31.7	34.9	38.6	59	32.3	35.5	39.3
5000	58	33.4	36.7	38.6	59	34	37.4	39.3
250	57	34.4	37.8	38	58	35.1	38.6	38.6
500	56	35.5	39.1	37.2	57	36.1	39.7	38
750	56	37.1	40.8	37.2	57	37.7	41.5	38
6000	56	38.7	42.6	37.2	57	39.4	43.3	38
250	53.5	38.5	42.4	35.5	54	38.9	42.8	35.9
500	50	37.4	41.1	33.2	51.5	38.5	42.4	34.2

TEST PROGRAMME

EX CAMSHAFT 32705

IN CAMSHAFT 49624

IN SPROCKET 41935

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45410 (IN 10° LATER)

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49625

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2 WITH EX

INLET CAMSHAFT, W49624, EX CAMSHAFT W49625, IN SPROCKET W41935

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T

CONCENTRIC CARBS R 930/3 & L 930/4

CLUTCH " 56T

220 MAIN JETS

FINAL DRIVE " 20T

U.S.A TYPE PIPES & SILENCERS.

BRAKE " 20T

TAPPET CLEARANCES IN .006, EX .007

R.P.M.	FIRST RUN 9.30 AM.				SECOND RUN 12.00 AM.			
	LBS	BHP	+10%	LBS/FT TORQUE	LBS	BHP	+10%	LBS/FT TORQUE
2250	54	14	15.4	35.9	54	14	15.4	35.9
500	54	15.6	17.2	35.9	56	16.1	17.7	37.2
750	55.5	17.6	19.4	36.9	57.5	18.4	20.2	38.2
3000	56.5	19.5	21.5	37.6	58	20	22	38.6
250	57.5	21.5	23.7	38.2	59	22	24.2	39.3
500	58	23.4	25.7	38.6	60.5	24.4	26.8	40.2
750	59.5	25.6	28.2	39.6	61	26.3	28.9	40.6
4000	59.5	27.4	30.1	39.6	61	28.1	30.9	40.6
250	59.5	29.1	32	39.6	60.5	29.6	32.6	40.2
500	58	30	33	38.6	60	31	34.1	39.9
750	58	31.7	34.9	38.6	59	32.3	35.5	39.3
5000	58	33.4	36.7	38.6	59	34	37.4	39.3
250	57	34.4	37.8	38	58	35.1	38.6	38.6
500	56	35.5	39.1	37.2	57	36.1	39.7	38
750	56	37.1	40.8	37.2	57	37.7	41.5	38
6000	56	38.7	42.6	37.2	57	39.4	43.3	38
250	53.5	38.5	42.4	35.5	54	38.9	42.8	35.9
500	50	37.4	41.1	33.2	51.5	38.5	42.4	34.2

TEST PROGRAMME

EX CAMSHAFT 32705

IN CAMSHAFT 49624

IN SPROCKET 41935

*

"

"

"

"

" 45410 (IN 10° LATER)

"

49625

"

"

" " "

"

"

"

"

" 41935 OPENING 5° EARLIER

"

"

"

"

" 45410 OPENING 5° EARLIER

Rerun test * up to 7000

STANDARD 1967 MODEL

736 cc INTERCEPTOR WITH INLET CAMSHAFT W 35344, EX CAMSHAFT W. 35345
& INLET SPROCKET W 48027

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T

CONCENTRIC CARBS. R 930/3 & L 930/4

CLUTCH " 56T

220 MAIN SETS

FINAL DRIVE " 20T

U.S.A. TYPE PIPES & SILENCERS.

BRAKE " 20T

TAPPET CLEARANCES IN. 002, EX 005

LBS/HP IN BMEP	R.P.M.	LBS	BHP	+10%	LBS/FT TORQUE	+15%	LBS/FT TORQUE
119.5	2500	51	14.7	16.2	34	16.9	35.6
123.7	2750	53	16.8	18.5	35.4	19.3	36.8
125.5	3000	53.5	18.5	20.4	35.7	21.3	37.3
126	3250	54	20.2	22.2	35.9	23.2	37.5
128.3	3500	55	22.2	24.4	36.6	25.5	38.2
129.7	3750	55.5	24	26.4	36.9	27.6	38.6
129.7	4000	55.5	25.5	28.1	36.9	29.3	38.6
129.7	4250	55.5	27.2	29.9	36.9	31.3	38.6
129.7	4500	55.5	28.7	31.6	36.9	33	38.6
129.7	4750	55.5	30.4	33.4	36.9	34.9	38.6
128.3	5000	55	31.6	34.8	36.6	36.3	38.2
126	5250	54	32.6	35.9	35.9	37.5	37.5
123.7	5500	53	33.6	37.0	35.4	38.6	36.8
121.3	5750	52	34.4	37.8	34.5	39.5	36.1
120.2	6000	51.5	35.6	39.2	34.3	40.9	35.8
117.6	6250	50.5	36.3	39.9	33.5	41.7	35
117.6	6500	50.5	37.8	41.6	33.5	43.4	35

736cc INTERCEPTOR WITH INLET CAMSHAFT W49624, EX CAMSHAFT W.32705
& INLET SPROCKET W 41935

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T

CONCENTRIC CARBS R930/3 & L930/4

CLUTCH - - - 56T

220 MAIN SETS

FINAL DRIVE " 20T

USA TYPE PIPES & SILENCERS

BRAKE " 20T

R.P.M.	LBS	B.H.P.	+ 10%	LBS/FT/ TORQUE	+15%	LBS/FT TORQUE
2500	53	15.2	16.7	35.4	17.5	36.8
750	54.5	17.2	18.9	36.1	19.7	37.6
3000	56.5	19.5	21.5	37.6	22.4	39.2
250	57	21.3	23.4	38.7	24.5	39.6
500	58	23.4	25.7	38.6	26.9	40.3
750	58	25	27.5	38.6	28.8	40.3
4000	58	26.7	29.4	38.6	30.7	40.3
250	58	28.4	31.2	38.6	32.7	40.3
500	57	29.5	32.5	38.7	33.9	39.6
750	57	31.1	34.2	38.8	35.8	39.6
5000	56.5	32.5	35.8	37.6	37.4	39.2
250	55	33.2	36.5	36.6	38.2	38.2
500	53.5	33.8	37.2	35.7	38.9	37.3
750	51.5	34.1	37.5	34.3	39.2	35.8
6000	49.5	34.2	37.6	32.9	39.3	34.4
250	48.5	34.8	38.3	32.2	40	33.6
500	47.5	35.5	39.1	31.6	40.8	32.9

736 cc INTERCEPTOR WITH INLET CAMSHAFT W49624, EX CAMSHAFT W32705
& INLET SPROCKET W45410

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T CONCENTRIC CARBS R930/3 & L930/4
 CLUTCH " 56T 220 MAIN SETS
 FINAL DRIVE - 20T USA TYPE PIPES & SILENCERS
 BRAKE " 20T

R.P.M.	LBS	B.H.P.	+ 10%	LBS/FT TORQUE	+ 15%	LBS/FT TORQUE
2500	50.5	14.5	16	33.5	16.7	35
750	52	16.4	18	34.5	18.9	36.1
3000	53	18.3	20.1	35.4	21.1	36.8
250	54	20.2	22.2	35.9	23.2	37.5
500	55	22.1	24.3	36.6	25.4	38.2
750	55.5	23.9	26.3	36.9	27.5	38.6
4000	56	25.8	28.4	37.2	29.7	38.9
250	56	27.4	30.1	37.2	31.5	38.9
500	56	29	31.9	37.2	33.4	38.9
750	56	30.6	33.7	37.2	35.2	38.9
5000	56	32.2	35.4	37.2	37	38.9
250	55.5	33.5	36.9	36.9	38.5	38.6
500	55.5	35.1	38.6	36.9	40.3	38.6
750	55.5	36.7	40.4	36.9	42.2	38.6
6000	55.5	38.3	42.1	36.9	44	38.6
250	53.5	38.5	42.4	35.5	44.2	37.3
500	53	39.6	43.6	35.4	45.5	36.8

736cc INTERCEPTOR WITH INLET CAMSHAFT W 49624, EX CAMSHAFT 49625

& INLET SPROCKET W 45410

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T

CONCENTRIC CARBS R 930/3 & L 930/4

CLUTCH " 56T

2.20 MAIN JETS

FINAL DRIVE " 20T

USA TYPE PIPES & SILENCERS

BRAKE " 20T

R.P.M.	LBS	B.H.P.	+10%	LBS/FT TORQUE	+15%	LBS/FT TORQUE
2250	49	12.7	14	32.7	14.6	34.1
500	51	14.7	16.2	34	16.9	35.6
750	53	16.8	18.5	35.4	19.3	36.8
3000	53.5	18.5	20.4	35.7	21.3	37.3
250	54.5	20.4	22.4	36.1	23.5	37.6
500	55.5	22.4	24.6	36.9	25.8	38.6
750	56.5	24.4	26.8	37.6	28.1	39.2
4000	56.5	26	28.6	37.6	29.9	39.2
250	56.5	27.6	30.4	37.6	31.7	39.2
500	56	29	31.9	37.2	33.4	38.9
750	55.5	30.3	33.3	36.9	34.8	38.6
5000	55.5	31.9	35.1	36.9	36.7	38.6
250	54.5	32.9	36.2	36.1	37.8	37.6
500	54.5	34.4	37.8	36.1	39.5	37.6
750	54.5	36	39.6	36.1	41.4	37.6
6000	54.5	37.6	41.4	36.1	43.2	37.6
250	53	38.1	41.9	35.4	43.8	36.8
500	52	38.9	42.8	34.5	44.7	36.1

WEIGHT OF MACHINE 412 LBS + 115T RIDER = 566 LBS TOTAL.

B.H.P. REQD ON LEVEL = $\frac{1.47 VR}{550}$

V = SPEED M.P.H.

A = 40 lbs / ton = 7.14

$R = A + BV^2$

B = .014

V	BV ²	R	VXR	B.H.P.	4.22 ^{TOP} SGAR	4.44 ^{TOP} SGAR
30 M.P.H	12.6	19.74	592	1.58	1688 R.P.M	1775 R.P.M.
40	22.4	29.54	1181	3.16	2250	2370
50	35	42.14	2107	5.63	2815	2960
60	50.4	57.54	3952	10.55	3375	3550
70	68.6	75.74	5301	14.3	3935	4145
80	89.6	96.74	7739	20.7	4500	4740
85	101.2	108.34	9210	24.6	4780	5030
90	113.5	120.64	10857	29	5070	5330
95	126.4	133.54	12690	33.9	5340	5620
100	140	147.14	14714	39.3	5625	5920
105	154.4	161.54	16880	45.2	5905	6220
110	169.4	176.54	19400	51.3	6190	6520
115	185	192.14	22080	59	6470	6810
120	201.5	208.64	25050	67	6750	7110

736 cc INTERCEPTOR WITH PROTOTYPE CAMSHAFTS

INLET CAMSHAFT W49624, EX CAMSHAFT W49625, IN SPROCKET W41935

12 VOLT COIL IGNITION, TIMED 33° B.T.D.C.

ENGINE SPROCKET 29T CONCENTRIC CARBS R930/3 & L930/4

CLUTCH " 56T 220 MAIN JETS

FINAL DRIVE " 20T USA TYPE PIPES & SILENCERS

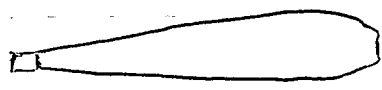
BRAKE " 20T TAPPET CLEARANCES IN.006", EX.007"

R.P.M.	LBS.	B.H.P.	+15%	LBS/FT TORQUE	LBS/30 IN B.M.E.P.
2250	55.5	14.4	16.6	38.6	129.8
500	56.5	16.3	18.6	39.2	136.7
750	57.5	18.2	20.8	39.8	138.7
3000	58.5	20.2	23.2	40.6	136.3
250	60	22.4	25.7	41.5	139.5
500	61	24.6	28.3	42.4	142.5
750	62	26.8	30.8	43.2	145.2
4000	62	28.6	32.9	43.2	145.2
250	62	30.3	34.8	43.2	145.2
500	61.5	31.8	36.5	42.6	143
750	60	32.8	37.7	41.7	140
5000	60	34.5	39.7	41.7	140
250	59	35.6	40.9	40.9	137.5
500	57.5	36.4	41.8	39.8	133.7
750	56.5	37.4	43	39.2	131.7
6000	56	38.7	44.5	38.9	130.5
250	55	39.5	45.4	38.2	128.3
500	54	40.4	46.5	37.5	126

Noise Level Tests

Diapos meter held horizontal at 50ft from
& Travel

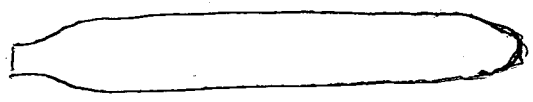
Sharrow Silencers



35 M.P.H.

- BOTTOM GEAR 94 dbA
- TOP GEAR 76 dbA
- TOP GEAR-ACCELERATING 80 dbA

Talboys Silencers as used previous to 1967



35 M.P.H.

- BOTTOM GEAR 90 dbA
- TOP GEAR 68 dbA
- TOP GEAR-ACCELERATING 76 dbA

Prototype Camshells

7-SEP-1967

EXP 1	(INLET - SHOULD BE $40\frac{1}{2}^\circ$)	is	$45^\circ 30'$
- 2	(- - -)	is	$43^\circ 45'$
- 3	(- - -)	is	$47^\circ -$
EXP 4	(EX - SHOULD BE 44°)	is	$44^\circ 45'$
- 5	(- - -)	is	$44^\circ 30'$
- 6	(- - -)	is	$34^\circ 30'$

Sprockets stamped with similar numbers to correct errors

STAGE II INTERCEPTOR 1ST PROTOTYPE - IN CAMSHAFT 49637, EX CAMSHAFT 49638
 SPROCKETS 49636

INLET (D/SIDE)

245	.5	315	16.5	25	222	95	358.5	165	277	235	38.5	305	2.75
250	.75	320	21	30	238	100	360	170	262	240	29.5	310	1.5
255	1.5	325	27	35	254	105	360	175	246.5	245	23	315	.75
260	2.5	330	35	40	269	110	359.5	180	230.5	250	18	320	.25
265	3.75	335	45	45	283	115	357.5	185	213	255	15	325	0
270	4.75	340	58	50	296	120	355	190	194.5	260	12.75		
275	5.75	345	73.5	55	308	125	351	195	175	265	11		
280	6.75	350	90.5	60	318	130	346	200	155.5	270	10		
285	7.75	355	108	65	327.5	135	339.5	205	135	275	9		
290	8.75	360	126	70	335.5	140	332.5	210	115.5	280	8		
295	9.75	5	146	75	342	145	324	215	98	285	7		
300	10.75	10	166	80	348	150	314	220	79.5	290	6		
305	12	15	185	85	352.5	155	303	225	64	295	5		
310	14	20	204	90	356	160	291	230	50	300	3.75		

EXHAUST (D/SIDE)

30	0	105	25	180	269	255	360	330	202	45	13.5		
35	.5	110	33	185	283.5	260	357	335	184	50	12		
40	1.5	115	43	190	297	265	353.5	340	164	55	11		
45	2.5	120	55.5	195	309	270	349	345	145	60	10		
50	3.75	125	70.5	200	319.5	275	343	350	125	65	9		
55	4.75	130	87	205	329	280	335.5	355	106	70	8.5		
60	5.75	135	105	210	337	285	327.5	360	89	75	7.5		
65	6.5	140	124	215	344	290	318	5	73	80	6.75		
70	7.5	145	143.5	220	350	295	307.5	10	58	85	5.75		
75	8.5	150	163.5	225	355.5	300	296	15	45	90	4.5		
80	9.5	155	183	230	358	305	282.5	20	35	95	3.5		
85	11	160	202	235	360.25	310	268.5	25	27.5	100	2.5		
90	12.75	165	221	240	361.75	315	253	30	21.5	105	2.25		

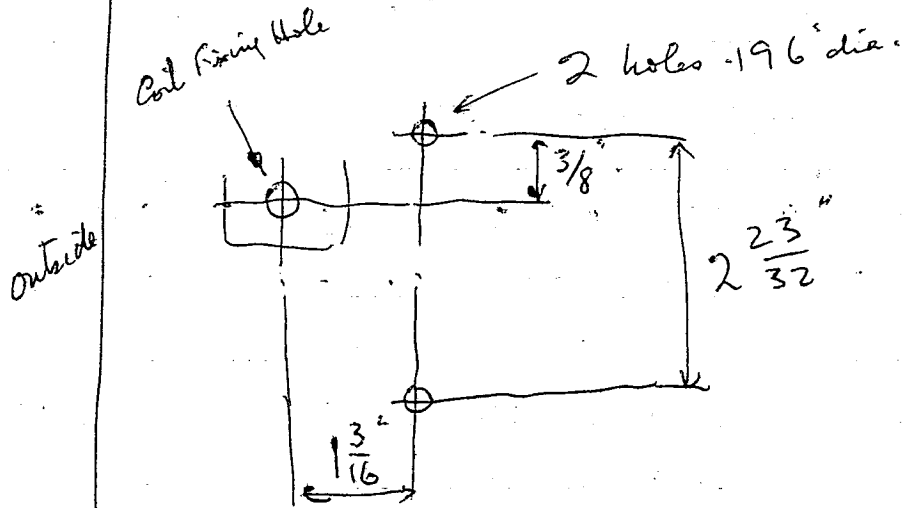
INLET (D/SIDE)

245	.5	315	16.5	25	222	95	358.5	165	277	235	38.5	305	2.75
250	.75	320	21	30	238	100	360	170	262	240	29.5	310	1.5
255	1.5	325	27	35	254	105	360	175	246.5	245	23	315	.75
260	2.5	330	35	40	269	110	359.5	180	230.5	250	18	320	.25
265	3.75	335	45	45	283	115	357.5	185	213	255	15	325	0
270	4.75	340	58	50	296	120	355	190	194.5	260	12.75		
275	5.75	345	73.5	55	308	125	351	195	175	265	11		
280	6.75	350	90.5	60	318	130	346	200	155.5	270	10		
285	7.75	355	108	65	327.5	135	339.5	205	135	275	9		
290	8.75	360	126	70	335.5	140	332.5	210	115.5	280	8		
295	9.75	5	146	75	342	145	324	215	98	285	7		
300	10.75	10	166	80	348	150	314	220	79.5	290	6		
305	12	15	185	85	352.5	155	303	225	64	295	5		
310	14	20	204	90	356	160	291	230	50	300	3.75		

EXHAUST (D/SIDE)

30	0	105	25	180	269	255	360	330	202	45	13.5		
35	.5	110	33	185	283.5	260	357	335	184	50	12		
40	1.5	115	43	190	297	265	353.5	340	164	55	11		
45	2.5	120	55.5	195	309	270	349	345	145	60	10		
50	3.75	125	70.5	200	319.5	275	343	350	125	65	9		
55	4.75	130	87	205	329	280	335.5	355	106	70	8.5		
60	5.75	135	105	210	337	285	327.5	360	89	75	7.5		
65	6.5	140	124	215	344	290	318	5	73	80	6.75		
70	7.5	145	143.5	220	350	295	307.5	10	58	85	5.75		
75	8.5	150	163.5	225	355.5	300	296	15	45	90	4.5		
80	9.5	155	183	230	358	305	282.5	20	35	95	3.5		
85	11	160	202	235	360.25	310	268.5	25	27.5	100	2.5		
90	12.75	165	221	240	361.75	315	253	30	21.5	105	2.25		
95	15	170	238	245	362	320	237	35	18	110	2.25		
100	19	175	254	250	361.5	325	220	40	15	115	2		

Condenser Pack Fixing Holes



looking from rear.

4-10-67

INTERCEPTOR - ROLLER BRAKE TESTS

TEST 1

MAGNETO, MONOBLOCKS, BURGESS SILENCERS (AS 1966 MODEL)
4x18 K70 Tyre

SPEED Km/HR	BRAKE			
	U/MIN	KG	LBS	
100	2000	11.0	24.2	22
120	2400	9.6	21.2	23
140	2800	7.5	16.5	21
160	3200	4.4	9.7	16

TEST 2

MAGNETO, MONOBLOCKS, SHARROW SILENCERS 4x18 K70 Tyre

SPEED Km/HR	BRAKE			M/C SPEED	ENGINE	
	U/MIN	KG	LBS	M.P.H.	R.P.M.	
100	2000	10.5	23.2	66	4,200	22
120	2400	9.7	21.4	74		23.3
140	2800	7.9	17.4	85	5,400	22.1
160	3200	4.7	10.4	95	5,700	15

TEST 3

MAGNETO, MONOBLOCKS, SHARROW SILENCERS, 350x19 Racing Tyre

SPEED Km/HR	U/min	KG	LBS		
100	2000	11.2	24.7	23.8	
120	2400	10.9	24.1	25.2	
140	2800	10	22.05	28	
160	3200	8.6	18.9	27.5	
180	3600	6.9	15.2	23.2	

5-10-67

INTERCEPTOR ROAD TEST (MAURICE)

4.44 TOP GEAR

TEST 1 MAGNETO, MONOBLOCKS, SHARROW SILENCERS, 4X18 K 70

TOWARDS BRISTOL 90 MPH 5,600 R.P.M.

FROM BRISTOL 98 MPH 6,100 R.P.M.

TEST 2 MAGNETO, MONOBLOCKS, BURGESS SILENCERS, 4X18 K 70

TOWARDS BRISTOL 92 MPH 6,100 R.P.M.

FROM BRISTOL 95 MPH 6,100 R.P.M.

TEST 3 MAGNETO, CONCENTRICS, BURGESS SILENCERS, 4X18 K 70

TOWARDS BRISTOL 95 MPH 6,000 R.P.M.

FROM BRISTOL 95 MPH 6,000 R.P.M.

TEST 4 MAGNETO, CONCENTRICS, SHARROW SILENCERS, 4X18 K 70

TOWARDS BRISTOL 95 MPH 6,000 R.P.M.

FROM BRISTOL 95 MPH 6,000 R.P.M.

Dynamometer Readings

① Magneto, Sharrow Silencers, Concentrics, Inlet Sprocket 36/40

<u>R.P.M.</u>	<u>LBS</u>	<u>BHP</u>
4500	34	34
5000	33	36.8
5500	32	38.5
6000	29.5	39.5

As above but S_2 Camshaft 9° later

<u>R.P.M.</u>	<u>LBS</u>	<u>BHP</u>
5000	32	35.5
6000	27½	36.6

As ① above but Inlet Sprocket 42/50 (later inlet)

<u>R.P.M.</u>	<u>LBS</u>	<u>BHP</u>
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Ex Redditch Engine .012" Clearance

In Opens 31° BTDC

In Closes 60° ABDC

Ex opens 77° BBDC

Ex closes 33° ATDC

Inlet Valve .321" lift

Ex Valve .314" lift

PRODUCTION ENGINE (NOT RUN) .012" Clearance

In Opens

In closes

Ex opens

Ex closes

Inlet Valve .331"

Ex Valve .319"

18TH OCT 1967

EX REDDITCH ENGINE WITH "ROSETTES", 6 CA CONTACT BREAKER AND SEPARATE CONDENSER PACK, STANDARD CAMSHAFTS (WORN TIMING CHAIN)

WINGFIELD 105 M.P.H. BOTH WAYS

19TH OCT

DELONG LOWLIFT CAMSHAFTS & NEW TIMING CHAIN FITTED.

EX CAMSHAFT RETARDED 6° BY FITTING SPECIAL EXHAUST CAMSHAFT SPROCKET (KEYWAY N° 2)

CAM TIMING MEASURED WITH .020" CLEARANCE :-

T/SIDE : IN OPENS 48° BEFORE T.D.C. (5° EARLY
IN CLOSES 85° AFTER B.D.C. (2° LATE
3/10" LIFT { EX OPENS 87° BEFORE B.D.C. (4° EARLY
EX CLOSES 46° AFTER T.D.C. (3° LATE

D/SIDE : IN OPENS 52° BEFORE T.D.C. (9° EARLY
IN CLOSES 83° AFTER B.D.C. (CORRECT
3/18" LIFT { EX OPENS 84° BEFORE B.D.C. (1° EARLY
EX CLOSES 45° AFTER T.D.C. (2° LATE

WINGFIELD 100 M.P.H. BOTH WAYS

25 OCT. 1967

SILENCER NOISE LEVEL TESTS AT MIRA (VERY WINDY)

1967 SHARROW SILENCER (EARLY PATTERN WITH VERY RESTRICTING BAFFLE)

APPROACH SPEED 31 M.P.H. 2ND GEAR

METER AT 25' DISTANCE	{	<u>RH</u>	94, 94, 94	dba
		<u>LH</u>	95.6, 96, 95	dba
METER AT 50' DISTANCE (CALIFORNIA RESS)	{	<u>RH</u>	90, 91, 90.5	dba
		<u>LH</u>	91, 91, 91	dba

1968 TALBOY SILENCER

APPROACH SPEED 31 M.P.H. 2ND GEAR

METER AT 25' DISTANCE	{	<u>RH</u>	95.5, 94.5, 95	dba
		<u>LH</u>	95.5, 95, 96	dba

METER AT 50' DISTANCE (CALIFORNIA RESS)	{	<u>RH</u>	90.5, 90.5, 91	dba
		<u>LH</u>	91.5, 92, 92	dba

INTERCEPTORS FOR MEXICO

24 FEB 1968

MINIMUM WEIGHT ~~TO BE~~ TO BE 202 KILOS (445 1/2 LBS)

SAY 203 KILOS (447 1/2 LBS) TO BE SAFE

WEIGHT OF STD INTERCEPTOR
(LESS ITEMS BELOW)

	396 LBS	12025
SILENCERS (2)	9 LBS	
MUDGUARD CARRIER	8 LBS	
DUAL SEAT	8 LBS	12025
NUMBER PLATE	1 LB	602
<u>STD INTERCEPTOR (LESS TOOL KIT)</u>	<u>423 LBS</u>	<u>14025</u>
TOOL KIT	2 LBS	4025
	<u>426 LBS</u>	<u>2025</u>

$$447 \frac{1}{2} \text{ LBS} - 426 \text{ LBS} = \underline{21 \frac{1}{2} \text{ LBS}}$$

MAKE WEIGHT TO EQUAL 22 LBS

22 LBS = 78.6 cu. in (steel) or 85 cu. in (CAST IRON)

Casting weighs 26 lbs

BREATHER TESTS

FEB 1968

Filler Cap Breather fitted large nylon disc with light spring.
Oil Consumption 2001 miles/gallon

Aluminium plate, with $\frac{3}{4}$ " dia. plugged hole, fitted to separate filler/breather hole from crankcase
Oil Consumption 1919 miles/gallon

Filler Cap breather blanked off. Open tube breather added as used on Stage I engines.
Oil Consumption 2809 miles/gallon

Above tests run on Däckhaus 20W/50 as used here
Remaining tests run on Castrol XL (20W/50)

Breather as on last test - Oil Consumption 2998 miles/gallon

Disc with $\frac{3}{16}$ " dia. centre hole added in union to breather tube
Oil Consumption 2620 miles/gallon

Spiral oil thrower in union to breather tube
Oil Consumption 2531 miles/gallon

HQ 22 material top rings fitted on new pistons
Oil Consumption 4000 miles/gallon

Std top rings fitted on same pistons
Oil Consumption 2928 miles/gallon

Changed to Shell 30 oil

Oil Consumption 3784 miles/gallon

Filler Cap Breather fitted large nylon disc with light spring.
Oil Consumption 2001 miles/gallon

Aluminium plate, with $\frac{3}{4}$ " dia plunged hole, fitted to separate
filler/breather hole from crankcase
Oil Consumption 1919 miles/gallon

Filler Cap breather blanked off. Open tube breather added
as used on Stage I engines.
Oil Consumption 2809 miles/gallon

Above tests run on Duckhams 20W/50 as used here
Remaining tests run on Castrol XL (20W/50)

Breather as on last test - Oil Consumption 2998 miles/gallon

Disc with $\frac{3}{16}$ " dia centre hole added in union to
breather tube
Oil Consumption 2620 miles/gallon

Spiral oil thrower in union to breather tube
Oil Consumption 2531 miles/gallon

HQ 22 material top rings fitted on new pistons
Oil Consumption 4000 miles/gallon

Std top rings fitted on same pistons
Oil Consumption 2928 miles/gallon

Changed to Shell 30 oil

Oil Consumption 3784 miles/gallon

Plate removed from inside crankcase and Std breather union fitted
(Plate was fitted to isolate filler cap breather)
on early tests

Crankschaft Balance 750

15 May 1968

Conn Rod e/w big end shells, bolts & washers 12 ozs 9 drms
Big end of Conn Rod e/w shells, bolts & washers 10 ozs
Small end of Conn Rod 2 ozs 9 drms
Piston e/w rings, circlips & gudgeon pin 11 ozs 10 drms

Weight of balance weight clamped to crankpin 20 ozs 4 drms

minus

10 ozs

10 ozs 4 drms

Reciprocating weight =

11 ozs 10 drms

plus

2 ozs 9 drms

14 ozs 3 drms

Percentage of reciprocating weight balanced by

$$\frac{20 \text{ ozs } 4 \text{ drms weight}}{14.188} \times 100 = \underline{\underline{72.24\%}}$$

Weight required to give 75% balance =

$$\left(\frac{3}{4} \times 14 \text{ ozs } 3 \text{ drms} \right) + 10 \text{ ozs} =$$

$$10 \text{ ozs } 10 \text{ drms} + 10 \text{ ozs} = \underline{\underline{20 \text{ ozs } 10 \text{ drms}}}$$

26 JUNE 1968

Received from H & G (MAN 052117)

12 C-1. Taper Faced Compression Rings in H.G. 22 matl.

2.7918" x .0635/.0625 x 3.083 mm / 2.883 mm

Butt Joint

H & G Ref MTP 20883

To H & G DRG C.16813 in wks.

23-7-68

Silencer Tests at Hallowington Aerodrome

by Ministry of Transport

Ambient Noise Level 65 dBA

Std Stage II Interceptor (Chris on MAM 5F)

	<u>3RD GEAR</u>	<u>2ND GEAR</u>
Near Side	89	87
Off Side	88	90

Stage II Interceptor with unequal length rockers and ball ended valve adjusters.

(Richard on KHR 60F)

	<u>3RD GEAR</u>	<u>2ND GEAR</u>
Near Side	93	92
Off Side	96	95

30-9-68

OIL COOLER HOSE ASSEMBLIESFEED K03 102 102 / 20 1/2"

+ 2 BANJOS 1/8 BSP shank, 1/4 BSP bolt holes

RETURN K03 102 404 / 21"

+ Adapter 105339 (1/8 BSP to 1/8 BSP)

ACCUMULATORENFABRIK SONNENSCHNEIN GMBH

4-10-68

6470 Büdingen (Hessen)

Thiergarten

BATTERY NO 50911 - 6 ML 3

Dims: 5 5/16 wide x 2 15/16 deep x 5 9/16 high

Dropped bars fitted to N°1 Short Circuit r/c
Peter Radnall, Dartmouth St, Birmingham
Sample from Westbury Motors, retail price 27/6d

CONTACT MR STRANGE B'HAM 021/554/8471
and arrange visit by MR BRADLEY
MARTIN & BEASLEY

29-10-68

CRANKSHAFT OIL SEAL

At present using Weston Oil Seal Ref N° W10006225 R4

MR HAMILTON (BRISTOL REP)
WHITCHURCH 2448

Code N° W R 16
1.003" O/D x 1/4" WIDE for 5/8 dia shaft

CHARLES WESTON & CO, PENDLETON 9/061-736/2857

Shaft revolving at 7,000 R.P.M = 1/46 ft/min surface speed.
Oil at 60 lbs/29 in.

Spoke to MR TILDESLEY who is sending drawing of "backing-up" washer.

Also contacted MR BROWN, PIONEER OIL SEALS,
Nelson 62241

They are putting in hand 6 seals N° 11P/10006218/D
Promised within 3 weeks.

Also contacted MR ALAN G. FERN, DOWTY SEALS LTD
9/06842/2441

regarding article on uni-directional seals in
Design & Components in Engineering, Sept 30th
His firm is expecting to be in production with new
type of seal in about 3 months. He will contact us.

VISIT TO MIRA

Series II Interceptors

30TH Oct 1968

EAST TO	<u>WEST</u>	<u>EAST</u>	<u>MEAN</u>
R STEVENS KHR 60F	108.2		
Standard with unequal length rockers and solid pushrods	110.3		
& ball ended valve adjusters K 81 Tyres	109.2	113.6	112.8

C LUDGATE MAM 5F	108.2		
Standard with oil cooler	106.8		
	108.5		
	109.2	110.3	109.8

C LUDGATE MAM 5F
Standing Start 1/4 Mile 14 secs, 91.1 terminal speed

22 Nov 1968

FERRIS & C LTD

LABORATORY FURNISHERS

KENN RD
HILLSIDE RD
BRISTOL 5

4	2 gramme weights	4/-
2	5 gramme "	2/6
2	10 gramme "	3/2
		<hr/>
		9/8d

17 Dec 1968

500cc Balance Weight 21 ozs 9 drms
giving 75% Balance factor (heavy judgement piece)

Tool No T7G 491

800 cc.

26th Nov 1968

CRANKSHAFT BALANCE

	OZS	DRMS
CONN ROD c/w BIG END SHELLS, BOLTS & WASHERS	12	6
BIG END OF CONN ROD c/w SHELLS, BOLTS & WASHERS	9	13
SMALL END OF CONN ROD	2	9
PISTON c/w RINGS, CIRCLIPS & C/PIN (HEAVY)	13	1

(HEAVY PIN 2ozs 10 $\frac{1}{2}$ drms)
 (750 PIN 2ozs 4 drms)

WEIGHT OF 750 BALANCE WEIGHT
 (CLAMPED TO C/PIN)

	20	4
MINUS	9	13
	<u>10</u>	<u>7</u>

RECIPROCATING WEIGHT

	13	1
PLUS	2	9
	<u>15</u>	<u>10</u>

PERCENTAGE OF RECIPROCATING WEIGHT BALANCED BY

$$20 \text{ OZS } 4 \text{ DRMS WEIGHT} = \frac{10 \frac{7}{16}}{15 \frac{10}{16}} \times 100 = \frac{167}{250} \times 100 = \underline{\underline{67\%}}$$

IF LIGHT C/PIN IS USED 68.7% OF RECIPROCATING WEIGHT WOULD BE BALANCED.

WEIGHT REQUIRED TO GIVE 75% BALANCE (WITH HEAVY PIN) =
 ($\frac{3}{4} \times 15 \text{ozs } 10 \text{drms}$) + 9ozs 13drms = 21ozs 9drms

IF LIGHT C/PIN IS USED THE WEIGHT BECOMES 21ozs 4drms

18-12-68

Received Pioneer Oil Seals N° 11P/10006218/D 525/80 (6 off)

For experimental use in Timing Cover crankshaft seal

Measurements of Barrels and Pistons on 1st Prototype
800 Interceptor after 2nd LH Piston had seized
for the 2nd time.

24-1-69

(Measured here - see
later page for Hepworth
measurements)

Cylinder Barrel RH

	Thrust Axis		90° to Thrust	
Top	2.8948	+ $\frac{8}{10}$	2.8965	+ $2\frac{5}{10}$
Middle	2.8955	+ $1\frac{5}{10}$	2.8970	+ 3
Bottom	2.8951	+ $1\frac{1}{10}$	2.8982	+ $4\frac{2}{10}$

Cylinder Barrel LH (Seized)

Top	2.8955	+ $1\frac{5}{10}$	2.8955	+ $1\frac{5}{10}$
Middle	2.8952	+ $1\frac{2}{10}$	2.8947	+ $\frac{7}{10}$
Bottom	2.8970	+ 3	2.8940	+ 0

Drawing limits on Barrel 2.8940/2.8935

Piston RH

Top of Skirt	2.887	2.880
Bottom of Skirt	2.888	2.884

Piston LH (Seized)

Top of Skirt	2.872	2.880
Bottom of Skirt	2.893	2.882

Top lands had been reduced on both pistons to 2.871" dia

Suggest (top of skirt increased .001" on dia
) Ring lands reduced .002" on dia
 Scraper ring groove made deeper.

VALVE SPRINGS

31-1-69

Information to be added to drawings ~~at~~ of springs
are supplied by Ferrys.

W 42692 (9277m) Outer. 47/52 lbs at 15/16 long
77/85 " 1/8 "
102/112 " 1 "
115/126 " 15/16 "

W. 42693 (9277m) Inner. 43/48 lbs at 1/8 long.
85/90 " 13/16 "

Both springs to be made to B.S.1726, Category III
Appendix A-class A

Measured by H&S at Bradford, Yorks

1-2-69

Measurement of Barrels and Pistons on 1st Prototype

800 Interceptor after 2nd LH Piston had seized for the 2nd time -

	Cylinder Barrel RH		EPE Figures		90° to Thrust
	Thrust Axis		↓		
1/4" down	2.8972	2.8949	1/2" down	2.8958	2.8968
1" "	2.8975	2.8950	1 1/2" "	2.8949	2.8968
2" "	2.8974	2.8952	2 1/2" "	2.8960	2.8969
3" "	2.8970	2.8958	3 1/2" "	2.8948	2.8982
4" "	2.8962	2.8954	4 1/2" "	2.8948	2.8982
5" "	2.8964	2.8963	5 1/2		2.8977
6" "	2.8956	5 1/2 2.897			

Cylinder Barrel LH (Seized)					
1/4" down	2.8912	2.8960	1/2" down	2.8984	2.8955
1" "	2.8931	2.8949	1 1/2" "	2.8963	2.8947
2" "	2.89445	2.8950	2 1/2" "	2.8947	2.8947
3" "	2.89445	2.8952	3 1/2" "	2.8945	2.8943
4" "	2.89445	2.8967	4 1/2" "	2.8949	2.894
5" "	2.8943	2.8992	5 1/2		2.892
6" "	2.8949	5 1/2 2.900			

Drawing limits on barrels 2.8940 / 2.8935

Measurements of new barrel to be fitted on RH side (H&S figures)
(Barrel No 3)

1/4" down	2.8952	1/2" down	2.8947
1" "	2.8955	1 1/2" "	2.89385
2" "	2.8956	2 1/2" "	2.8937
3" "	2.89355	3 1/2" "	2.8937
4" "	2.8935	4 1/2" "	2.89375
5" "	2.8936		
6" "	2.8937		

~~Surface finish as graph~~

Surface finish as graph

F-1-R. BARREL.

AFTER RUNNING

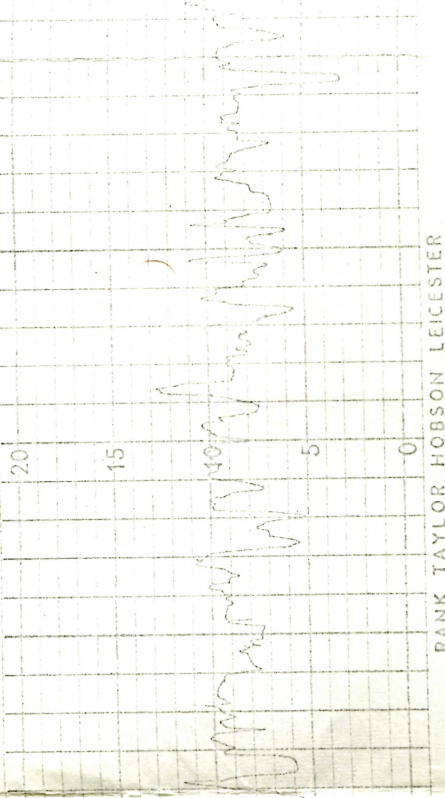
THRUST. FROM TOP	90° FROM TOP
$\frac{1}{2}$ 2.9007	$\frac{1}{2}$ 2.9035
$1\frac{1}{2}$ 2.8993	$1\frac{1}{2}$ 2.9023
$2\frac{1}{2}$ 2.8992	$2\frac{1}{2}$ 2.9023
$3\frac{1}{2}$ 2.8994	$3\frac{1}{2}$ 2.903
$4\frac{1}{2}$ 2.8984	$4\frac{1}{2}$ 2.896
$5\frac{1}{2}$ 2.895	$5\frac{1}{2}$ 2.8953

2.8940

2.8935 average

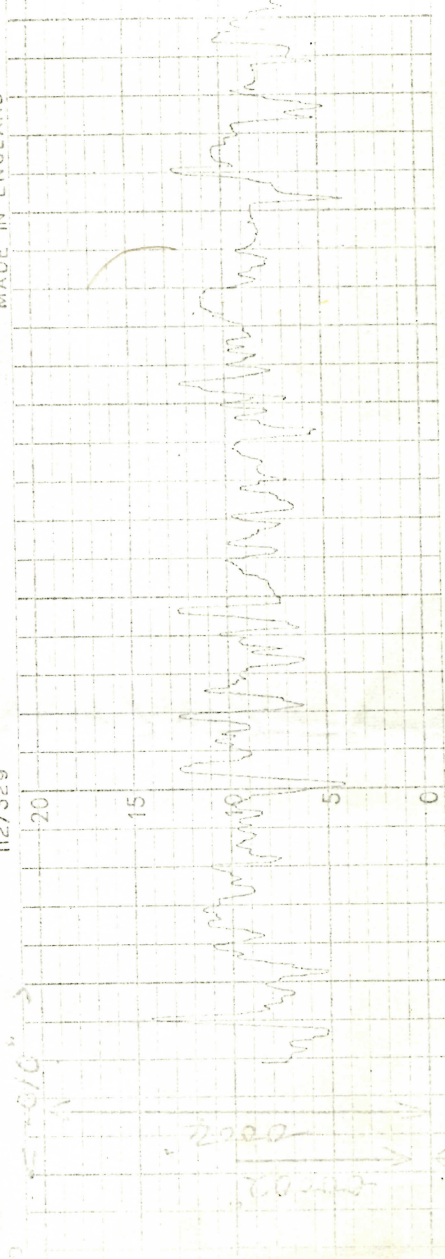
112/329

MADE IN ENGLAND



RANK TAYLOR HOBSON LEICESTER

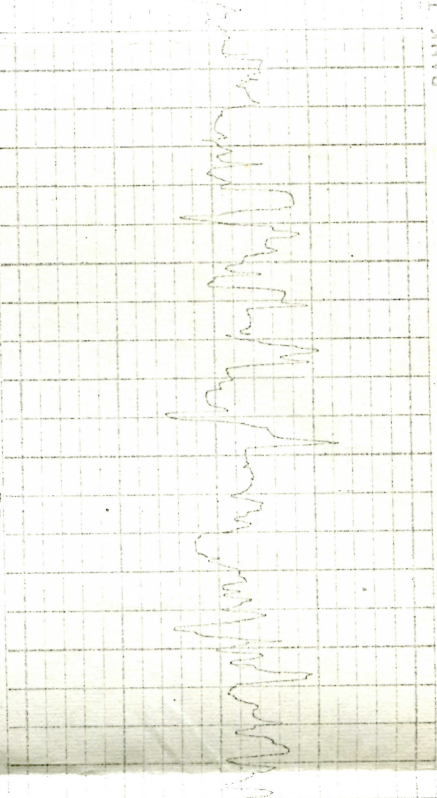
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RANK TAYLOR HOBSON LEICESTER

MADE IN ENGLAND

112/329



RANK TA

MADE IN ENGLAND

112/329

DATE	
COMPONENT	EPH-FIELD HARPER
PART NO.	
M/C NO.	
MAG. V.G.H.	5,000 X 100
AVE. METER	22 to 30
POSITION	BASE
FINISH	HOOPER

RANK TAYLOR HOBSON LEICESTER

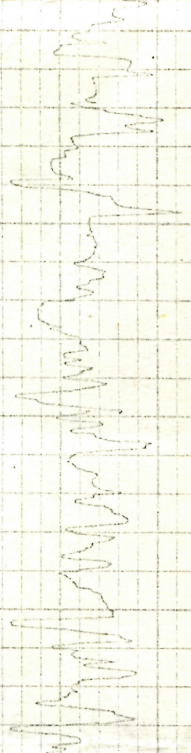
HOBSON LEICESTER

H.C. recommend 3500A

112/329

MADE IN ENGLAND

20
15
10
5
0



HOBSON LEICESTER

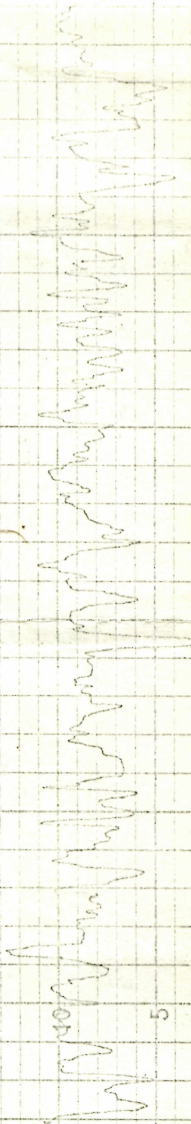
RANK TAYLOR HOBSON LEICESTER

RANK TAY

112/329

MADE IN ENGLAND

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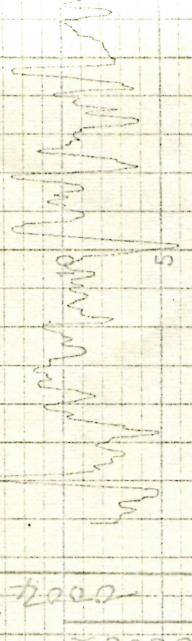


RANK TAYLOR HOBSON LEICESTER

MADE IN ENGLAND

112/329

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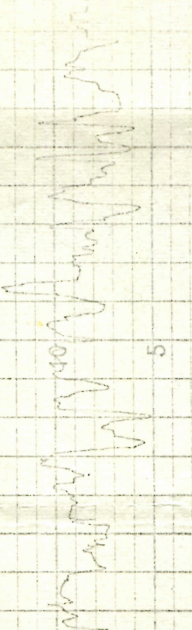


RANK TAYLOR HOBSON LEICESTER

MADE IN ENGLAND

112/329

20
15
10
5
0



RANK TAYLOR HOBSON LEICESTER

4.6 recommend 3500A average

Measurement of new barrel to be fitted on LH side (Barrel No 2)

	<u>Thrust Axis</u>	<u>90° to Thrust</u>
Top	2.8935	2.8943
Middle	2.8934	2.8940
Bottom	2.8935	2.8952
Barrel N°1 (not fitted)		2.8938
Top	2.894	2.8938
Middle	2.8939	2.8935
Bottom	2.8942	2.8955

21-2-69

Super Oil Seals & Gaskets Ltd

Cardiff

9/0222/753221

MR JONES, Technical Dept.

We asked for samples of seal 931007 Style B $\frac{1}{2} \times 1 \times \frac{5}{16}$ wide
Can supply samples N° 931008 Style B $\frac{1}{2} \times 1 \frac{1}{8} \times \frac{5}{16}$ wide.

Housing requires boring out to 1.125" die with .02" max rad corner
Chamfer lead of .05" x 30°

Plunge Grind Shaft to .501" die, 15 microns MAX
Chamfer

Advice Note N° K07474, Work Order N° TD.06521 Dispatched 21-2-69

6 Stock N° 931008B Matl 1021

Description 11216 N/10 'L'

(Stamped D5230007)