

LAMPIRAN





KEMENTERIAN PENDIDIKAN, KEBUDAYAAN,
RISET, DAN TEKNOLOGI
POLITEKNIK NEGERI SRIWIJAYA
JURUSAN TEKNIK MESIN

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LEMBAR BIMBINGAN LAPORAN SKRIPSI

Lembar : 1

Nama : Muhammad Ranay
NIM : 062040212113
Jurusan/Program Studi : Teknik Mesin / D-IV Produksi & Perawatan
Judul Laporan Akhir : ANALISA PENGARUH PERBANDINGAN KOIL STANDAR,
KOIL IMITASI DAN KOIL RACING TERHADAP KINERJA
SEPEDA MOTOR DENGAN KAPASITAS MESIN 160 CC
Pembimbing I : Muhammad Rasid, S.T., M.T.
Pembimbing II : Ali Medi, S.T., M.T.

No.	Tanggal	Uraian Bimbingan	Tanda Tangan Pembimbing	
			I	II
1.	13 / 2024 / 3	Revisi judul penggantian kata pada menjadi terhadap		
2.	14 / 2024 / 3	Bimbingan pada bab II penambahan landasan teori tentang Torque, Daya, akselerasi		
3.	16 / 2024 / 3	Acc landasan teori tentang Torque, Daya, akselerasi dan penambahan rumus-rumus		
4.	20 / 2024 / 3	Revisi diagram alir kata yang tidak sesuai		
5.	21 / 2024 / 3	Bimbingan tentang proses pengujian yang Fix dilakukan		
6.	27 / 2024 / 3	Pengujian bab IV berupa data penelitian yang akan disusun dan menggunakan metode ANOVA		

No.	Tanggal	Uraian Bimbingan	Tanda Tangan Pembimbing	
			I	II
7.	28 / 2024 / 6	Melanjutkan analisa Torsi, Daya, Akselerasi dimasukkan ke tabel		
8.	1 / 2024 / 7	Revisi Bab IV melanjutkan pengolahan data menggunakan metode ANOVA dengan software Microsoft Excel		
9.	5 / 2024 / 7	Melanjutkan analisa Torsi, Daya, Akselerasi dengan ANOVA		
10.	8 / 2024 / 7	Bimbingan dari hasil metode ANOVA		
11.	10 / 2024 / 7	Acc Bab IV dilanjutkan bab V		
12.	12 / 2024 / 7	Membuat kesimpulan dari saran dari hasil yang telah diuji dan dianalisa		
13.	16 / 2024 / 7	Acc Bab V Dapat mengikuti ujian Seminar Skripsi		

Palembang, Juli 2024

Ketua Jurusan/KPS,



 Ir. Sairul Effendi, M.T.
 NIP. 196309121989031005



KEMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI

POLITEKNIK NEGERI SRIWIJAYA

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REKOMENDASI UJIAN LAPORAN SKRIPSI

Pembimbing Laporan Skripsi memberikan rekomendasi kepada,

Nama : Muhammad Ranay
NIM : 062040212113
Jurusan/Program Studi : Teknik Mesin / D-IV Teknik Mesin Produksi dan Perawatan
Judul Proposal : ANALISA PENGARUH PERBANDINGAN KOIL
STANDAR, KOIL IMITASI DAN KOIL RACING
TERHADAP KINERJA SEPEDA MOTOR DENGAN
KAPASITAS MESIN 160 CC

Mahasiswa tersebut telah memenuhi persyaratan dan dapat mengikuti Ujian Laporan Skripsi pada Tahun Akademik 2024/2025.

Pembimbing I,

Muhammad Rasid, S.T., M.T.
NIP. 196302051989031001

Palembang, Juli 2024
Pembimbing II,

Ali Medi, S.T., M.T.
NIP. 1970051620033121001

Pembimbing Akademik

Fenoria Putri, S.T., M.T.
NIP. 197202201998022001

SURAT KETERANGAN MELAKUKAN PENELITIAN / PENGUJIAN

Yang bertanda tangan dibawah ini :

Nama : Muhammad Ranay
NIM : 062040212113
Program Studi : Sarjana Terapan Teknik Mesin Produksi dan Perawatan
Pengujian : Dynotest
Tanggal : 28 Juni 2024
Data Alat Dynometer
Software : Sportdyno
Merk : Leads
Correction Factor : ISO 1585

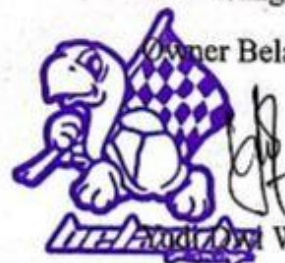
Menyatakan bahwa mahasiswa tersebut memang benar telah melakukan penelitian / pengujian di bengkel Belando Racing. Demikianlah surat keterangan ini dibuat untuk dapat digunakan sebagaimana mana mestinya.

Palembang, 28 Juni 2024

Penguji Dynotest



Budhi Sinchan



Owner Belando Racing

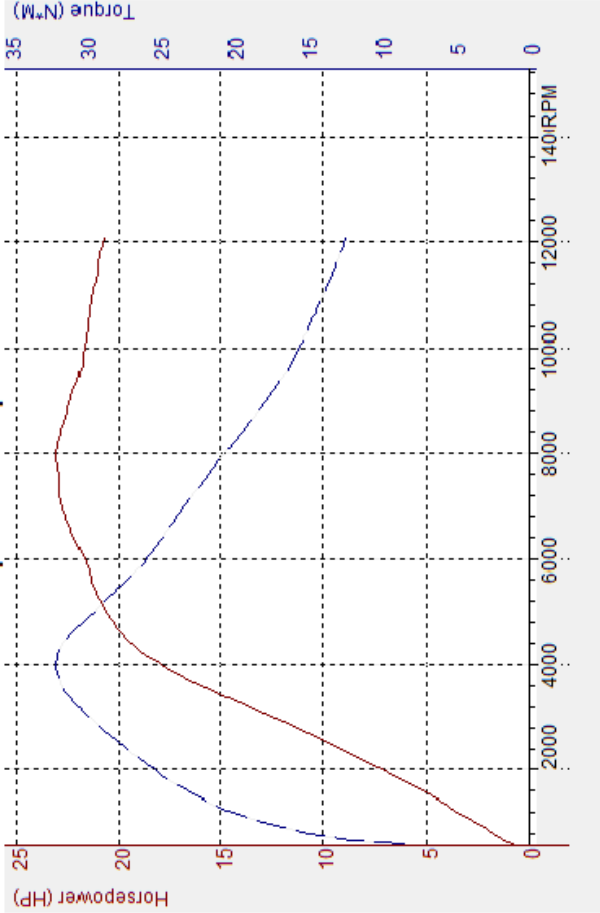
Azidi Widiyanto



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	23.1 / 7930	31.83 / 3951	99.6	0.0	0	0.0	28/06/2024 15:33:10

Horsepower & Torque

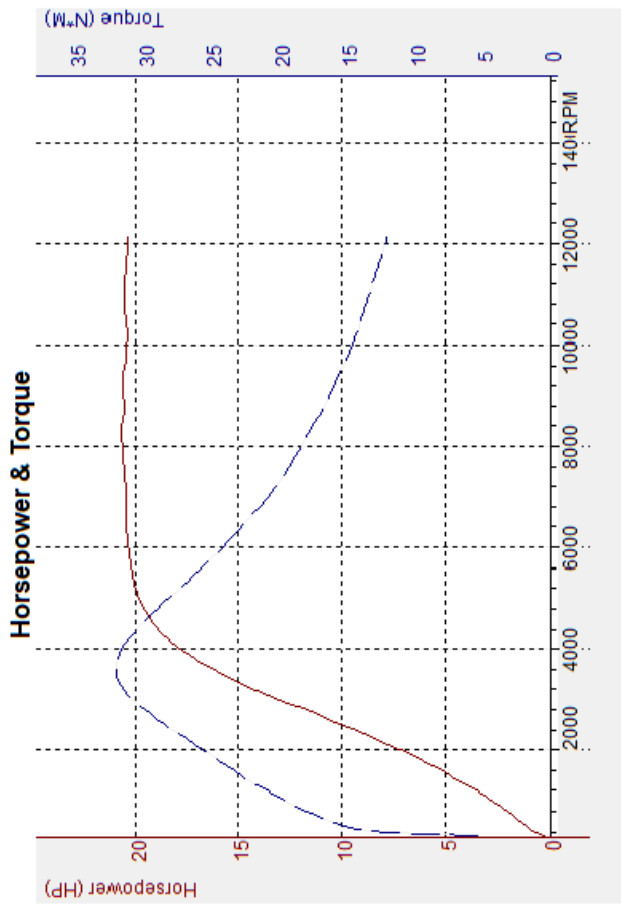


RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1) (AFR)
1000	2.7	18.27	1.30	11.34
1500	4.7	22.34	1.42	11.34
2000	7.1	25.24	1.52	11.34
2500	10.0	27.80	1.62	11.34
3000	13.0	29.94	1.72	11.34
3500	15.8	31.37	1.82	11.34
4000	18.0	31.83	1.92	11.34
3951	18.0	31.83	1.92	11.34
4500	19.7	31.09	2.04	11.34
5000	20.6	29.35	2.18	11.34
5500	21.3	27.44	2.32	11.34
6000	21.7	25.71	2.46	11.34
6500	22.3	24.37	2.62	11.34
7000	22.8	23.14	2.78	11.34
7500	22.9	21.68	2.96	11.34
7930	23.1	20.58	3.12	11.34
8000	23.0	20.43	3.14	11.34
8500	22.7	18.96	3.34	11.34
9000	22.4	17.62	3.56	11.34
9500	21.9	16.40	3.78	11.34
10000	21.7	15.45	4.02	11.34
10500	21.5	14.53	4.30	11.34
11000	21.3	13.76	4.56	11.34
11500	21.1	13.02	4.84	11.34
12000	20.8	12.29	5.16	11.34
12500	21.1	13.06	5.48	11.34
13000	20.8	12.29	5.82	11.34



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

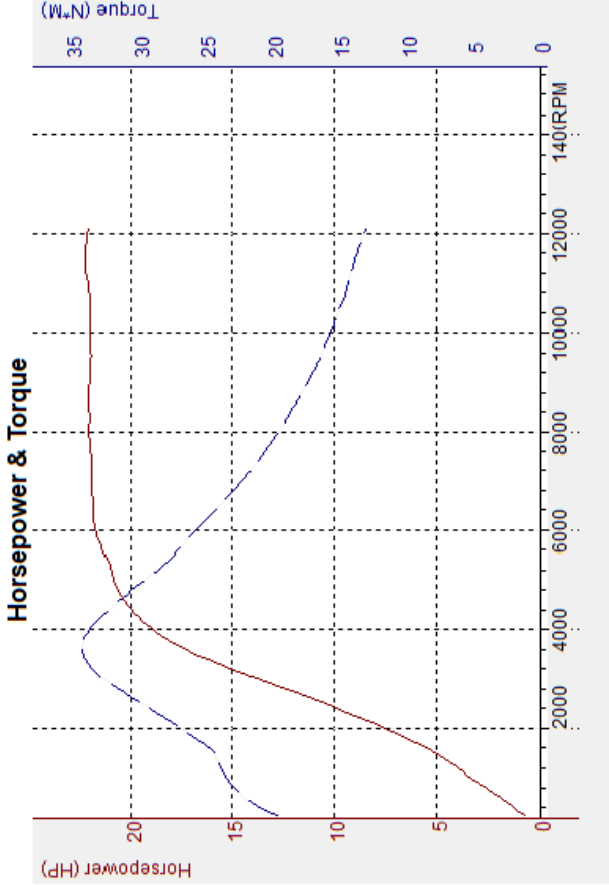
Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	20.07 / 8154	32.08 / 3608	101.4	0.0	0	0.0	28/06/2024 15:55 :15



RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1) (AFR)
500	1.1	15.06	1.30	11.33
1000	3.0	20.03	1.44	11.33
1500	5.2	23.24	1.54	11.33
2000	7.2	25.65	1.62	11.33
2500	10.1	28.49	1.72	11.33
3000	13.0	30.85	1.82	11.33
3500	16.0	32.07	1.94	11.33
3608	16.4	32.08	1.96	11.33
4000	18.0	31.55	2.06	11.33
4500	19.1	30.13	2.18	11.33
5000	19.8	28.12	2.32	11.33
5500	20.2	25.89	2.48	11.33
6000	20.4	23.98	2.64	11.33
6500	20.5	22.23	2.82	11.33
7000	20.5	20.76	3.00	11.33
7500	20.5	19.42	3.20	11.33
8000	20.6	18.28	3.42	11.33
8154	20.7	17.93	3.50	11.33
8500	20.6	17.23	3.64	11.33
9000	20.6	16.25	3.88	11.33
9500	20.5	15.35	4.14	11.33
11500	20.5	12.63	5.30	11.33
12000	20.4	12.06	5.62	11.33
12500	20.5	12.63	5.96	11.33
13000	20.4	11.99	6.32	11.33



Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb air)	Date/Time
Matic Yamaha 160	22.2 / 11354	34.16 / 3612	105.3	0.0	0	0.0	28/06/2024 15:57 :20

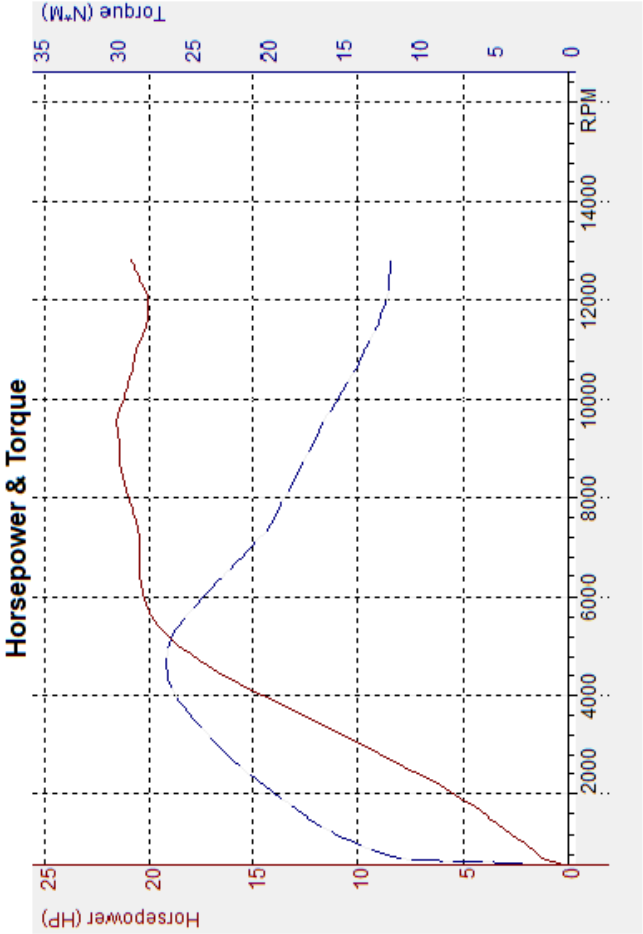


RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1) (AFR)
500	1.6	21.59	1.36	11.33
1000	3.7	23.62	1.48	11.33
1500	5.3	24.37	1.56	11.33
2000	7.6	26.90	1.64	11.33
2500	10.6	29.98	1.74	11.33
3000	13.8	32.68	1.84	11.33
3500	17.1	34.14	1.96	11.33
3612	17.5	34.16	1.98	11.33
4000	19.0	33.55	2.08	11.33
4500	20.3	31.58	2.22	11.33
5000	20.8	29.59	2.34	11.33
5500	21.2	27.32	2.50	11.33
6000	21.7	25.64	2.66	11.33
6500	21.8	23.78	2.84	11.33
7000	21.9	22.05	3.04	11.33
7500	21.9	20.68	3.24	11.33
8000	22.0	19.54	3.44	11.33
8500	22.0	18.34	3.68	11.33
9000	22.0	17.30	3.92	11.33
9500	21.9	16.40	4.16	11.33
10000	21.9	15.57	4.44	11.33
10500	21.9	14.85	4.72	11.33
11000	22.1	14.23	5.02	11.33
11354	22.2	13.87	5.24	11.33
11500	22.2	13.70	5.32	11.33
12000	22.0	13.06	5.64	11.33
12500	22.2	13.70	5.98	11.33
13000	22.0	12.98	6.34	11.33



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

Name	HP/RPM	N*/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	21.6 / 9415	26.50 / 4675	89.6	0.0	0	0.0	29/06/2024 10:27:32

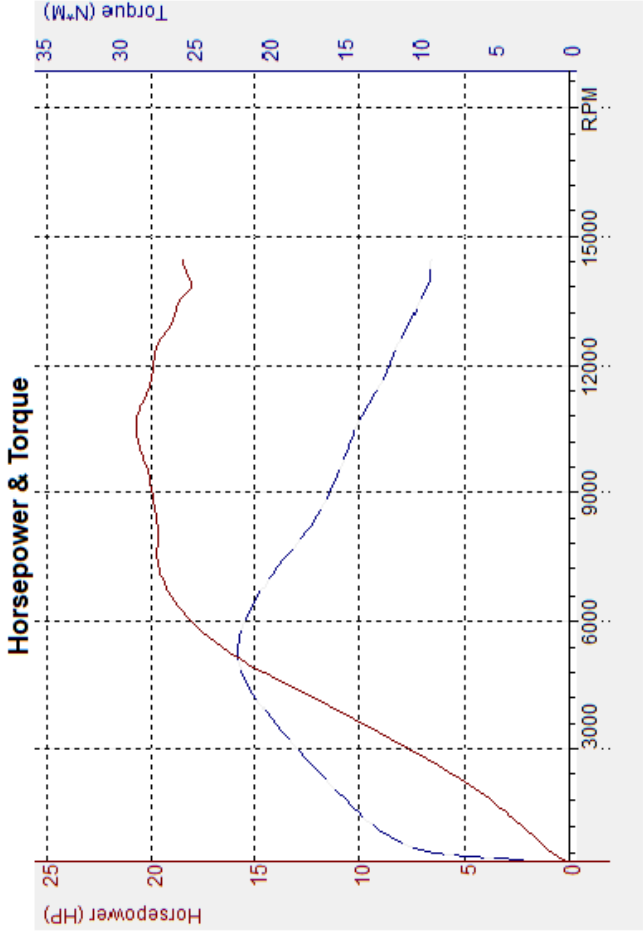


RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1) (AFR)
1000	2.7	14.86	1.30	11.34
1500	3.7	17.23	1.42	11.34
2000	6.8	18.81	1.52	11.34
2500	8.0	21.72	1.62	11.34
3000	11.4	23.42	1.72	11.34
3500	12.8	24.90	1.82	11.34
4000	15.7	26.20	1.92	11.34
4675	16.9	26.50	1.92	11.34
5000	18.3	26.35	2.04	11.34
5500	18.9	26.35	2.18	11.34
6000	20.1	24.75	2.32	11.34
6500	20.2	24.31	2.46	11.34
7000	20.3	23.75	2.62	11.34
7500	20.4	22.89	2.78	11.34
8000	20.9	18.93	2.96	11.34
8500	21.3	18.70	3.12	11.34
9000	21.4	17.50	3.14	11.34
9415	21.6	16.95	3.34	11.34
9500	21.5	15.85	3.56	11.34
10000	21.3	14.76	3.78	11.34
10500	21.3	16.75	4.02	11.34
11000	20.5	15.85	4.30	11.34
11500	20.3	14.79	4.56	11.34
12000	20.1	14.35	4.84	11.34
12500	20.3	13.80	5.48	11.34
13000	20.5	13.50	5.82	11.34



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	20.07 / 10515	21.85 / 5143	85.7	0.0	0	0.0	29/06/2024 10:28:15



RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1)(AFR)
500	0.6	7.81	1.20	11.34
1000	1.9	12.39	1.38	11.34
1500	2.9	13.86	1.44	11.34
2000	4.7	15.69	1.52	11.34
2500	6.3	16.97	1.58	11.34
3000	7.9	18.17	1.64	11.34
3500	9.7	19.29	1.70	11.34
4000	11.5	20.30	1.76	11.34
4500	13.8	21.35	1.84	11.34
5000	15.3	21.77	1.90	11.34
5143	16.2	21.85	1.94	11.34
5500	17.0	21.80	1.98	11.34
6000	18.1	21.37	2.06	11.34
6500	19.1	20.55	2.16	11.34
7000	19.5	19.77	2.24	11.34
7500	19.7	18.34	2.36	11.34
8000	19.7	17.36	2.48	11.34
8500	19.8	16.56	2.58	11.34
9000	20.0	15.72	2.70	11.34
9500	20.2	15.05	2.82	11.34
10000	20.6	14.38	2.94	11.34
10500	20.7	13.96	3.08	11.34
10515	20.7	13.96	3.08	11.34
11000	20.6	13.29	3.20	11.34
15000	20.1	12.39	3.36	11.34
12000	19.9	11.75	3.52	11.34
12500	19.6	11.11	3.68	11.34
13000	19.0	10.36	3.86	11.34
13500	18.6	9.77	4.04	11.34
14000	18.2	9.22	4.26	11.34

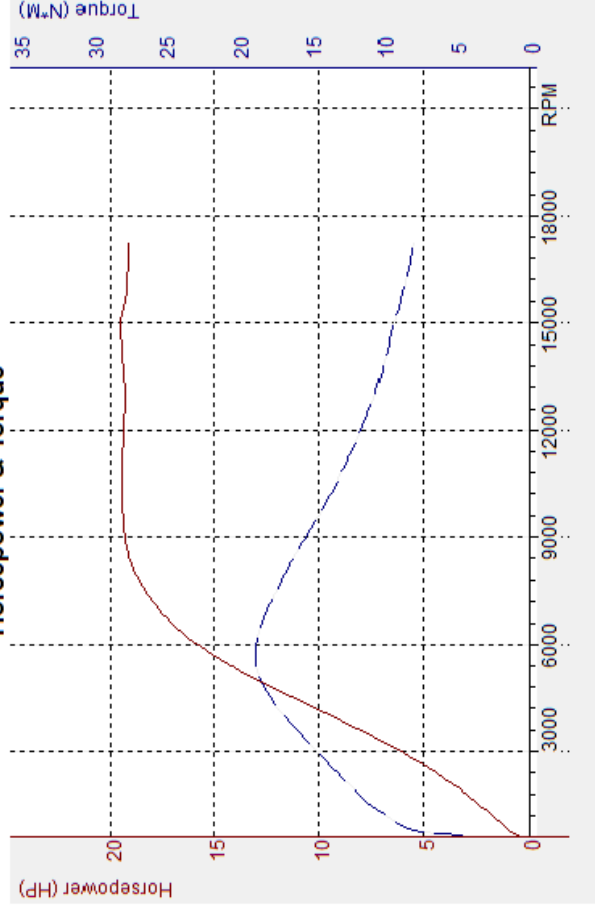


SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

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Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	19.5 / 14799	18.79 / 5589	90.2	0.0	0	0.0	29/06/2024 10:29:27

Horsepower & Torque



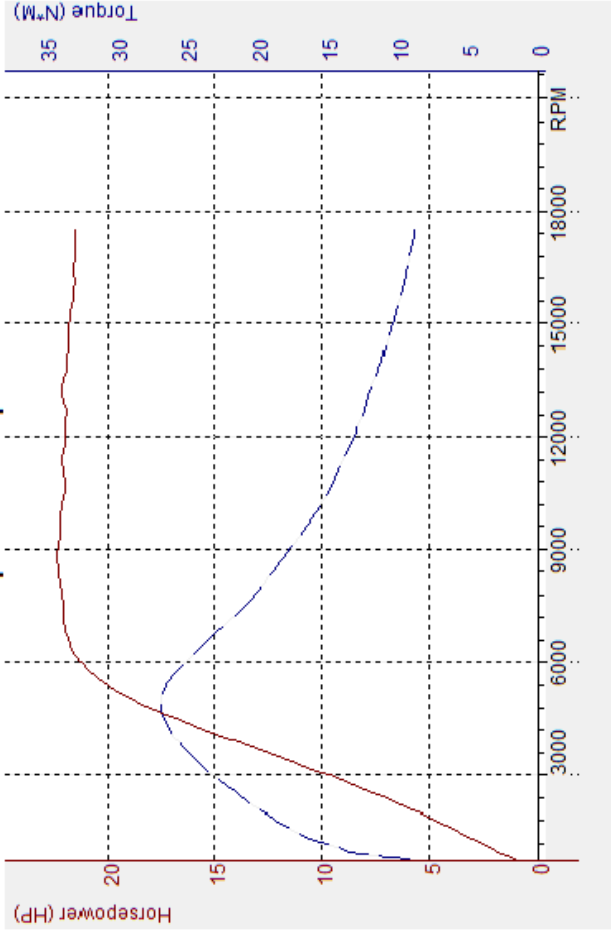
RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1)(AFR)
1000	1.3	9.13	1.30	11.33
1500	2.3	10.75	1.38	11.33
2000	3.6	12.33	1.46	11.33
2500	4.8	13.48	1.52	11.33
3000	6.2	14.60	1.58	11.33
3500	8.2	16.00	1.66	11.33
4000	9.7	16.97	1.72	11.33
4500	11.4	17.81	1.78	11.33
5000	13.4	18.56	1.86	11.33
5500	14.7	18.78	1.92	11.33
5589	15.1	18.79	1.94	11.33
6000	16.0	18.69	2.00	11.33
6500	17.1	18.36	2.08	11.33
7000	17.8	17.85	2.16	11.33
7500	18.4	17.27	2.24	11.33
8000	18.8	16.67	2.32	11.33
8500	19.2	15.93	2.42	11.33
9000	19.3	15.18	2.52	11.33
9500	19.4	14.47	2.62	11.33
10000	19.4	13.70	2.74	11.33
10500	19.4	13.12	2.84	11.33
11000	19.5	12.52	2.96	11.33
11500	19.4	11.98	3.08	11.33
12000	19.4	11.45	3.22	11.33
12500	19.3	10.96	3.36	11.33
13000	19.3	10.52	3.50	11.33
13500	19.4	10.19	3.64	11.33
14000	19.4	9.83	3.80	11.33
14500	19.5	9.55	3.94	11.33
14799	19.5	9.32	4.06	11.33



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	22.3 / 8700	26.78 / 4764	116.6	0.0	0	0.0	30/06/2024 11:15:05

Horsepower & Torque



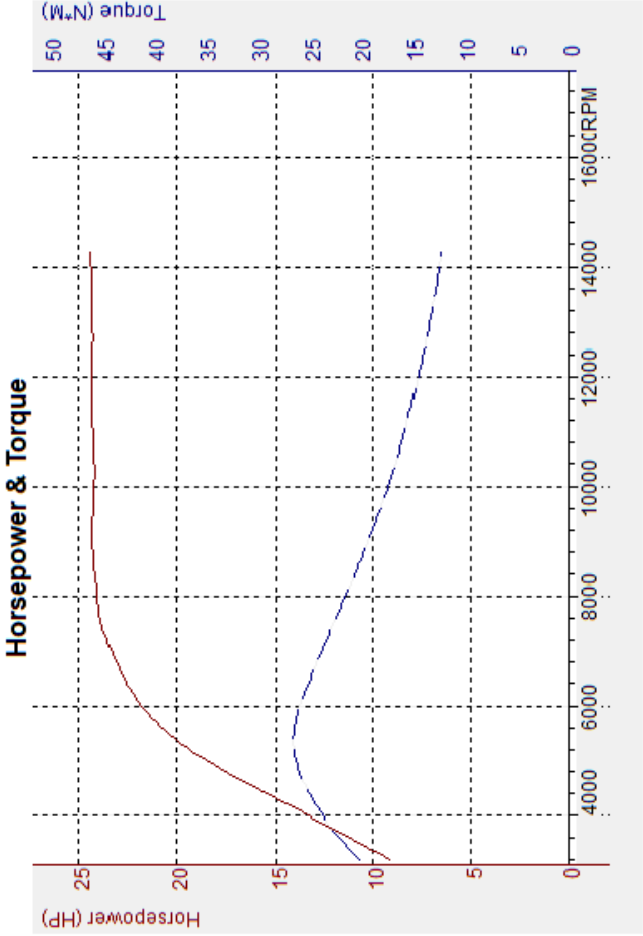
RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1) (AER)
1000	2.0	13.86	1.20	11.33
1500	3.7	17.23	1.32	11.33
2000	5.8	19.81	1.42	11.33
2500	8.0	21.72	1.50	11.33
3000	10.3	23.42	1.58	11.33
3500	12.7	24.90	1.66	11.33
4000	15.1	26.05	1.74	11.33
4500	17.3	26.68	1.82	11.33
4764	18.2	26.78	1.86	11.33
5000	19.1	26.74	1.90	11.33
5500	20.4	26.11	2.00	11.33
6000	21.2	25.05	2.10	11.33
6500	21.7	23.55	2.22	11.33
7000	22.0	22.29	2.32	11.33
7500	22.0	20.89	2.44	11.33
8000	22.1	19.59	2.58	11.33
8500	22.3	18.56	2.72	11.33
8700	22.3	18.14	2.78	11.33
9000	22.3	17.57	2.86	11.33
9500	22.2	16.55	3.02	11.33
10000	22.1	15.72	3.18	11.33
10500	21.9	14.82	3.36	11.33
11000	22.0	14.17	3.54	11.33
11500	22.0	13.61	3.72	11.33
12000	21.9	12.95	3.94	11.33
12500	21.9	12.46	4.34	11.33
13000	22.0	12.04	4.56	11.33
13500	22.0	11.58	4.84	11.33
14000	21.8	11.07	5.34	11.33
14500	21.8	10.66	5.62	11.33



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

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Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	24.5 / 14468	26.51 / 5328	113.6	0.0	0	0.0	30/06/2024 11:16 :15



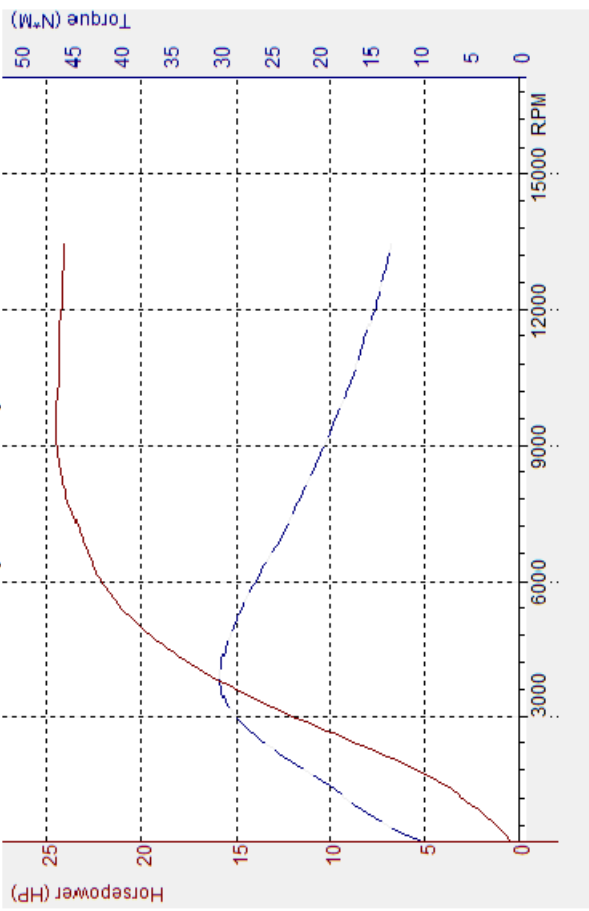
RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA 1 (AN-1) (AFR)
1000	2.0	21.07	1.20	11.33
1500	3.7	21.23	1.31	11.33
2000	5.8	21.81	1.43	11.33
2500	8.0	22.46	1.54	11.33
3000	10.3	23.87	1.57	11.33
3500	12.7	24.90	1.65	11.33
4000	15.1	26.05	1.72	11.33
4500	17.3	26.39	1.84	11.33
5000	18.2	26.47	1.88	11.33
5328	19.1	26.51	1.93	11.33
5500	20.4	26.48	2.07	11.33
6000	21.2	25.09	2.13	11.33
6500	21.7	24.58	2.24	11.33
7000	22.0	23.31	2.36	11.33
7500	22.0	22.87	2.47	11.33
8000	22.1	22.67	2.55	11.33
8500	22.3	22.34	2.76	11.33
9000	22.3	20.19	2.79	11.33
9500	22.3	18.59	2.85	11.33
10000	22.2	18.54	3.06	11.33
10500	22.1	17.77	3.16	11.33
11000	21.9	16.88	3.34	11.33
11500	22.0	16.35	3.59	11.33
12000	22.0	15.68	3.72	11.33
12500	21.9	15.89	3.92	11.33
13000	21.9	14.57	4.34	11.33
13500	22.0	13.09	4.59	11.33
14000	22.0	13.35	4.85	11.33
14468	24.5	13.50	5.12	11.33
14500	21.8	13.75	5.54	11.33



SportDyno-Ver date: 16-JAN-2021 (4.0.38.2)
DYNAMOMETER: LEADSDYNO
Correction Factor: ISO 1585
Power: HP (mechanic)

Name	HP/RPM	N*M/RPM	KMH	Temp. (°C)	Humidity (%)	Pressure (mb ar)	Date/Time
Matic Yamaha 160	24.5 / 9478	29.79 / 3698	107.0	0.0	0	0.0	30/06/2024 11:17:22

Horsepower & Torque



RPM	HP (HP)	TQ (N*M)	ACCELERATION (S)	TLAMBDA I (AN-1) (AFR)
500	0.96	12.38	1.08	11.33
1000	2.5	16.29	1.20	11.33
1500	4.3	19.57	1.30	11.33
2000	6.5	22.80	1.40	11.33
2500	9.6	26.40	1.52	11.33
3000	12.3	28.57	1.62	11.33
3500	14.7	29.62	1.72	11.33
3698	16.0	29.79	1.78	11.33
4000	17.1	29.72	1.84	11.33
4500	18.7	29.28	1.94	11.33
5000	20.3	28.44	2.06	11.33
5500	21.4	27.42	2.18	11.33
6000	22.2	26.14	2.32	11.33
6500	22.8	24.78	2.46	11.33
7000	23.2	23.54	2.60	11.33
7500	23.7	22.40	2.76	11.33
8000	24.1	21.33	2.96	11.33
8500	24.3	20.24	3.10	11.33
9000	24.5	19.25	3.28	11.33
9478	24.5	18.32	3.46	11.33
10000	24.5	17.40	3.66	11.33
10500	24.3	16.45	3.88	11.33
11000	24.4	15.73	4.10	11.33
11500	24.4	15.02	4.34	11.33
12000	24.2	14.31	4.58	11.33
12500	24.2	13.76	4.82	11.33
13000	24.1	13.15	5.10	11.33
13500	24.1	12.68	5.36	11.33
14000	24.2	13.42	5.64	11.33