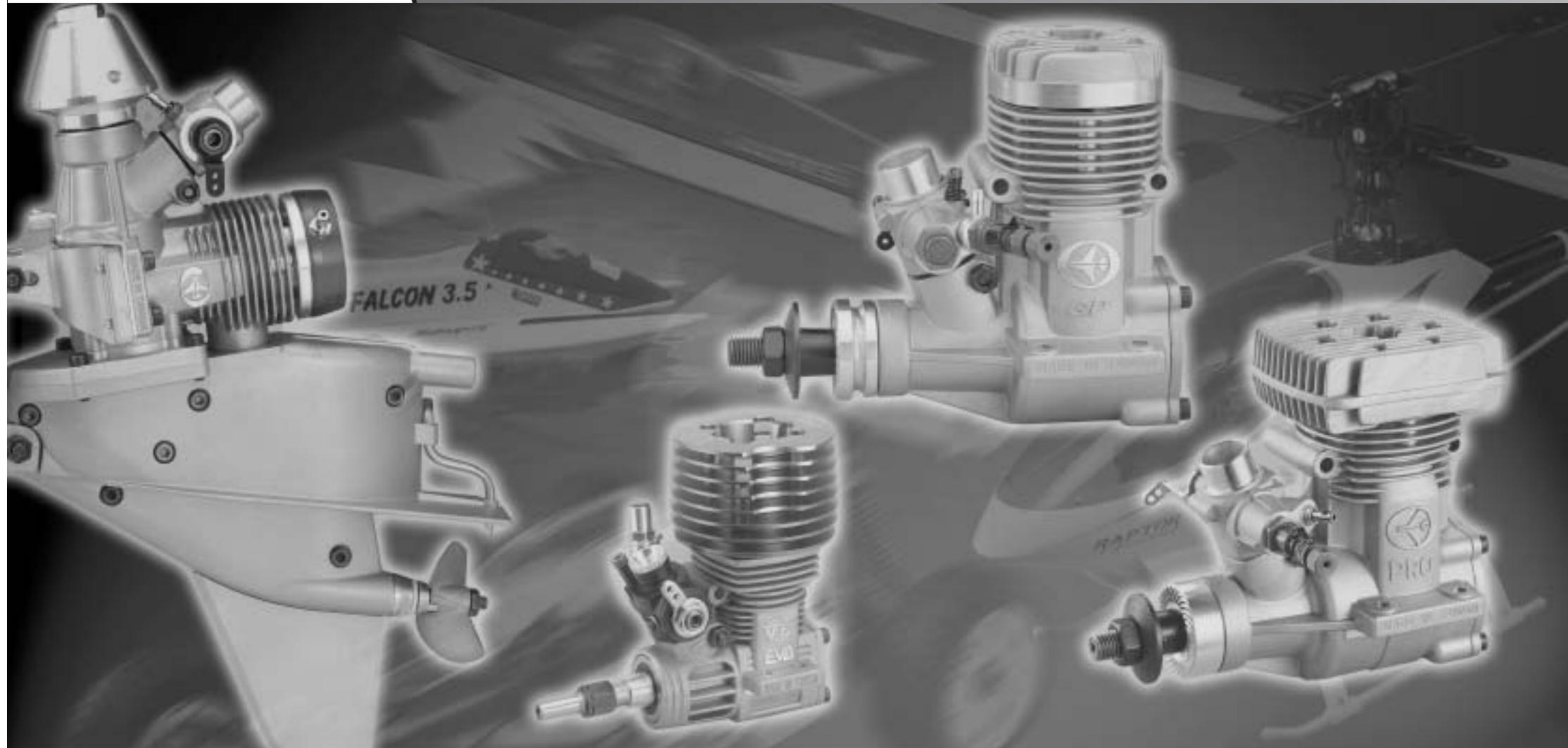




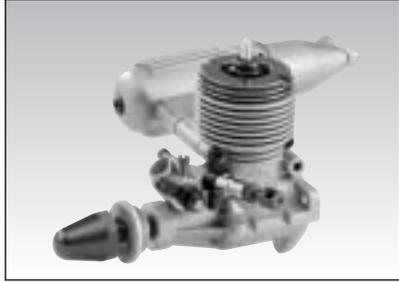
# PARTS CATALOG FOR ENGINE SERIES



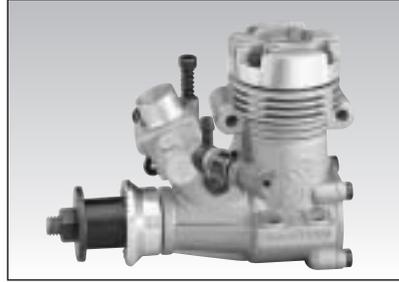
Manufactured by **THUNDER TIGER CORPORATION**  
Distributed in North America by **ACE HOBBY DISTRIBUTORS, INC.**

<http://www.thundertiger.com>  
<http://www.acehobby.com>

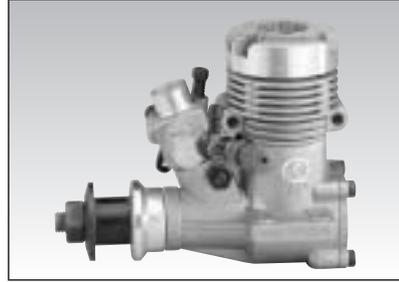
Two-Stroke  
Aircraft Engine  
GP Series



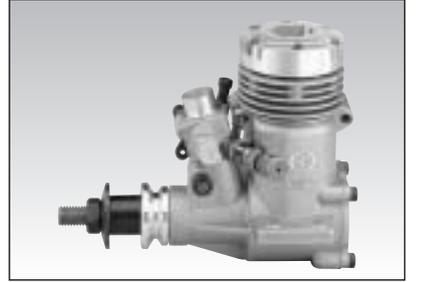
GP-07 / 9007



GP-10 / 9010



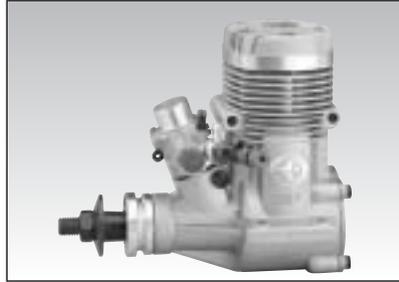
GP-15 / 9011



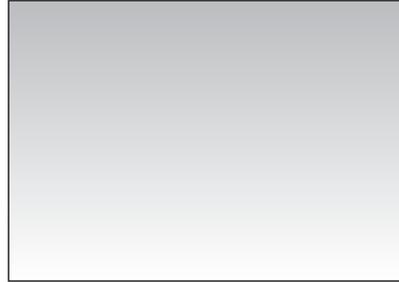
GP-25 / 9020



GP-42 / 9041



GP-61 / 9060



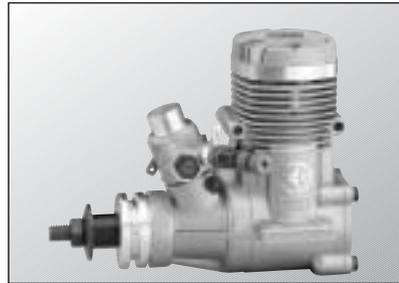
Two-Stroke  
Aircraft Engine  
PRO Series



PRO-25 / 9120



PRO-36 / 9130



PRO-40 / 9140



PRO-46 / 9141



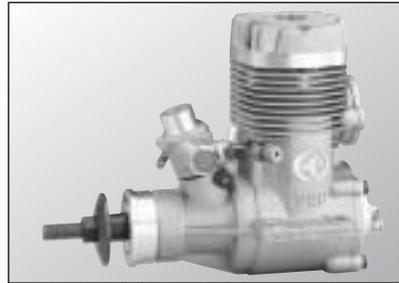
PRO-61 / 9160



PRO-90 / 9190

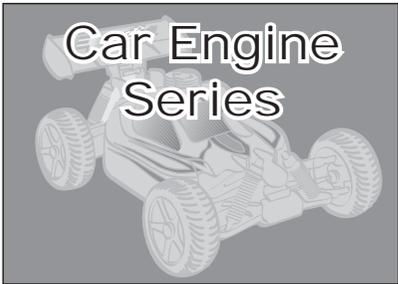


PRO-120 / 9195



PRO-120-RP / 9196





**PRO-12BZ(P) / 9431**



**PRO-12BZX(P) / 9433**



**PRO-12BX(S) / 9437**



**PRO-15BZ(P) / 9432**



**PRO-15BZX(P) / 9434**



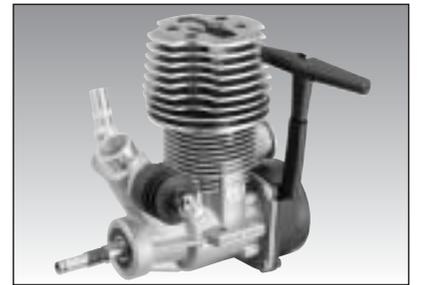
**PRO-15BXS / 9414**



**PRO-21BX-RS / 9429**



**PRO-21B-R(P) / 9435**



**PRO-21BX-R(P) / 9436**



**PRO-21BX-RP / 9441**



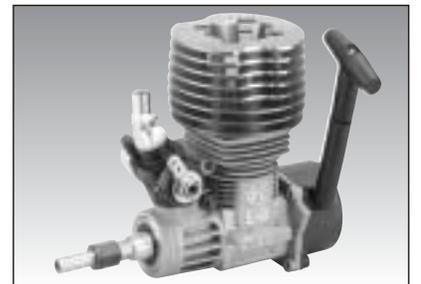
**PRO-50BX(R) / 9445**



**PRO-70BX(R) / 9447**



**EVO-12 / 9460**



**EVO-12X / 9461**



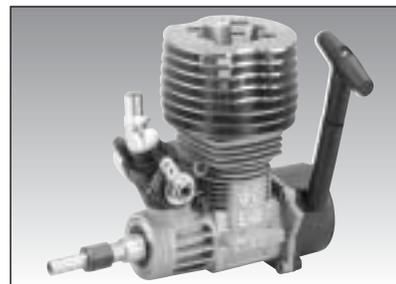
**EVO-12(TH) / 9464**



**EVO-12X(TH) / 9465**



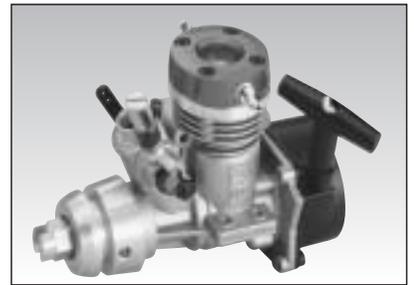
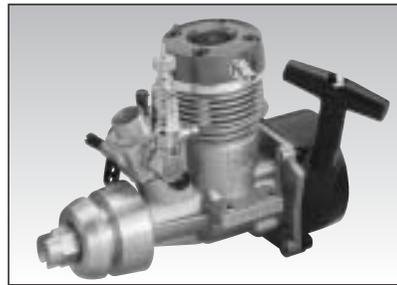
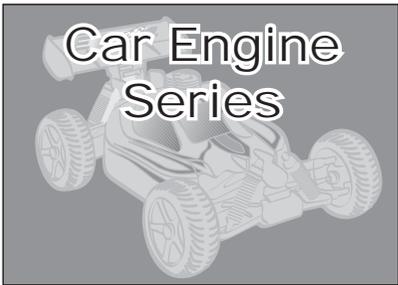
**EVO-15 / 9462**



**EVO-15X / 9463**



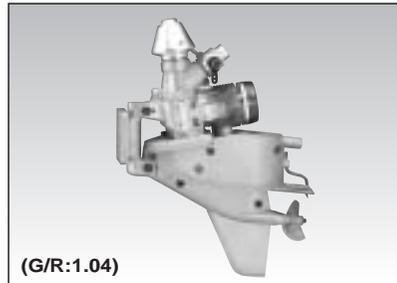
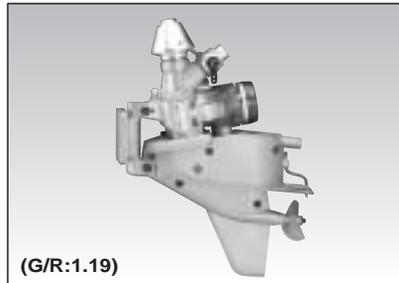
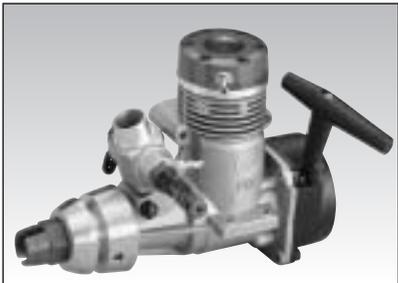
**EVO-15(TH) / 9466**



EVO-15X(TH) / 9467

GP-15MX/ 9501

PRO-15MX/ 9551



PRO-21MX/ 9561

PRO-21MX-R / 9566

PRO-21M-OB / 9567

PRO-21M-OB / 9568

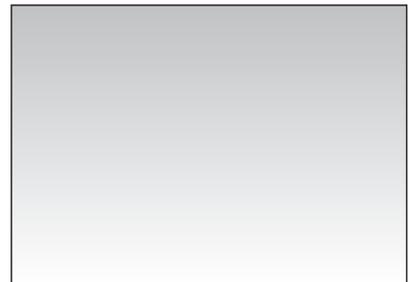
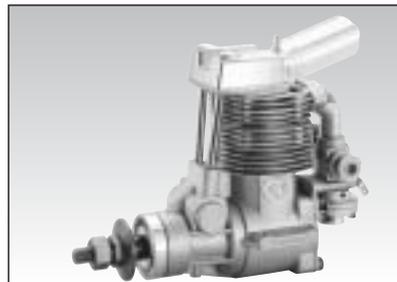


\*PRO-36H / 9670

PRO-39H(R) / 9604

PRO-50H(R) / 9605

PRO-70H(R) / 9607



PRO-90H(R) / 9609

F-54S / 9800

F-91S / 9801

\* Engine discontinued

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# ENGINE SPECIFICATION LIST

## TWO STROKE AIRCRAFT ENGINE

ITEMS	No.	DIPLACEMENT (cc / cu.in)	BORE (mm / in.)	STROKE (mm / in.)	PRACTICAL RPM	OUTPUT (BHP / RPM)	WEIGHT(w/muffler) (g / oz)	NOTE
GP-07	9007	1.13 / 0.069	12 / 0.472	10 / 0.394	3000~18000	0.19 / 17000	94.4 / 3.33	
GP-10	9010	1.75 / 0.107	13.4 / 0.528	12.4 / 0.488	2500~18000	0.27 / 17000	161.9 / 5.71	
GP-15	9011	2.49 / 0.152	15.2 / 0.598	13.7 / 0.539	2500~18000	0.40 / 17000	179.7 / 6.34	
GP-25	9020	4.07 / 0.248	18 / 0.709	16 / 0.630	2500~16000	0.60 / 15000	241.8 / 8.53	
GP-42	9041	6.90 / 0.421	21.5 / 0.846	19 / 0.748	2000~15000	1.10 / 14000	357.2 / 12.60	
GP-61	9060	10.58 / 0.646	24.2 / 0.953	23 / 0.906	2000~16000	2.00 / 15000	693.4 / 24.46	
PRO-25	9120	4.07 / 0.248	18 / 0.709	16 / 0.630	2500~18000	0.75 / 17000	285.8 / 10.08	
PRO-36	9130	5.98 / 0.365	20.8 / 0.819	17.6 / 0.693	2000~17000	1.10 / 16000	313.6 / 11.06	
PRO-40	9140	6.52 / 0.398	20.9 / 0.823	19 / 0.748	2000~17000	1.30 / 16000	454.5 / 16.03	
PRO-46	9141	7.47 / 0.456	21.8 / 0.858	20 / 0.787	2000~17000	1.60 / 16000	448.5 / 15.82	
PRO-61	9160	9.98 / 0.609	23.5 / 0.925	23 / 0.906	2000~17000	1.85 / 16000	758.4 / 26.75	
PRO-90	9190	14.78 / 0.902	28 / 1.102	24 / 0.945	2000~16000	2.75 / 15000	828.0 / 29.20	
PRO-120	9195	20.76 / 1.267	31 / 1.220	27.5 / 1.083	1800~15000	3.2 / 14000	975 / 34.39	
PRO-120-RP	9196	20.76 / 1.267	31 / 1.220	27.5 / 1.083	1800~15000	3.5 / 14000	(*1)780 / 27.51	

(\*1)wo/muffler

## TWO STROKE HELICOPTER ENGINE

ITEMS	No.	DIPLACEMENT (cc / cu.in)	BORE (mm / in.)	STROKE (mm / in.)	PRACTICAL RPM	OUTPUT (BHP / RPM)	WEIGHT(wo/muffler) (g / oz)	NOTE
*PRO-36H	9670	5.98 / 0.365	20.8 / 0.819	17.6 / 0.693	2000~17000	1.10 / 16000	283.8 / 10.01	
PRO-39H(R)	9604	6.45 / 0.394	21.6 / 0.850	17.6 / 0.693	2000~17000	1.35 / 16000	290 / 10.23	
PRO-50H(R)	9605	8.19 / 0.500	22.5 / 0.886	20.6 / 0.811	2000~17000	1.8 / 16000	405 / 14.28	
PRO-70H(R)	9607	11.49 / 0.701	25 / 0.984	23.4 / 0.921	2000~17000	2.5 / 16000	570 / 20.10	
PRO-90H(R)	9609	14.78 / 0.902	28 / 1.102	24 / 0.945	2000~16000	2.75 / 15000	575 / 20.28	

\* Engine discontinued

## FOUR STROKE AIRCRAFT ENGINE

ITEMS	No.	DIPLACEMENT (cc / cu.in)	BORE (mm / in.)	STROKE (mm / in.)	PRACTICAL RPM	OUTPUT (BHP / RPM)	WEIGHT(w/muffler) (g / oz)	NOTE
F-54S	9800	8.87 / 0.541	24 / 0.945	19.6 / 0.772	2200~13000	0.8 / 12000	419.6 / 14.80	
F-91S	9801	14.97 / 0.914	28.3 / 1.114	23.8 / 0.937	2000~12000	1.6 / 11000	742.8 / 26.20	

# ENGINE SPECIFICATION LIST

## TWO STROKE CAR ENGINE

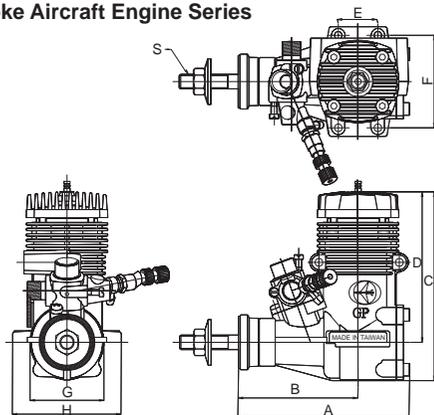
ITEMS	No.	DIPLACEMENT (cc / cu.in)	BORE (mm / in.)	STROKE (mm / in.)	PRACTICAL RPM	OUTPUT (BHP / RPM)	WEIGHT(wo/muffler) (g / oz)	NOTE
PRO-12BZ(P)	9431	2.11 / 0.129	14 / 0.551	13.7 / 0.539	3000~30000	0.56 / 29000	232 / 8.18	
PRO-12BZX(P)	9433	2.11 / 0.129	14 / 0.551	13.7 / 0.539	3000~30000	0.56 / 29000	254 / 8.96	
PRO-12BX(P)	9437	2.11 / 0.129	14 / 0.551	13.7 / 0.539	3000~30000	0.56 / 29000	254 / 8.96	
PRO-15BZ(P)	9432	2.49 / 0.152	15.2 / 0.598	13.7 / 0.539	3000~30000	0.6 / 29000	243 / 8.57	
PRO-15BZX(P)	9434	2.49 / 0.152	15.2 / 0.598	13.7 / 0.539	3000~30000	0.6 / 29000	265 / 9.35	
PRO-15BXS	9414	2.49 / 0.152	15.2 / 0.598	13.7 / 0.539	3000~28000	0.58 / 27000	265 / 9.35	
PRO-21BX-RS	9429	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~35000	2.0 / 30000	388 / 13.68	
PRO-21B-R(P)	9435	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~38000	2.1 / 30000	295 / 10.40	
PRO-21BX-R(P)	9436	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~38000	2.1 / 30000	390 / 13.76	
PRO-21BX-RP	9441	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~38000	2.1 / 30000	425 / 14.99	
PRO-50BX(R)	9445	8.19 / 0.500	22.5 / 0.886	20.6 / 0.811	3000~30000	1.8 / 16000	465.2 / 16.41	
PRO-70BX(R)	9447	11.49 / 0.701	25 / 0.984	23.4 / 0.921	3000~25000	2.25 / 16000	600 / 21.16	
EVO-12	9460	2.11 / 0.129	13.85 / 0.545	14 / 0.551	3000~35000	0.75 / 29000	225 / 7.94	
EVO-12X	9461	2.11 / 0.129	13.85 / 0.545	14 / 0.551	3000~35000	0.75 / 29000	250 / 8.82	
EVO-15	9462	2.47 / 0.151	15 / 0.591	14 / 0.551	3000~35000	0.85 / 29000	230 / 8.11	
EVO-15X	9463	2.47 / 0.151	15 / 0.591	14 / 0.551	3000~35000	0.85 / 29000	255 / 8.99	
EVO-12(TH)	9464	2.11 / 0.129	13.85 / 0.545	14 / 0.551	3000~35000	0.75 / 29000	220 / 7.76	
EVO-12X(TH)	9465	2.11 / 0.129	13.85 / 0.545	14 / 0.551	3000~35000	0.75 / 29000	245 / 8.64	
EVO-15(TH)	9466	2.47 / 0.151	15 / 0.591	14 / 0.551	3000~35000	0.85 / 29000	225 / 7.94	
EVO-15X(TH)	9467	2.47 / 0.151	15 / 0.591	14 / 0.551	3000~35000	0.85 / 29000	250 / 8.82	

## TWO STROKE MARINE ENGINE

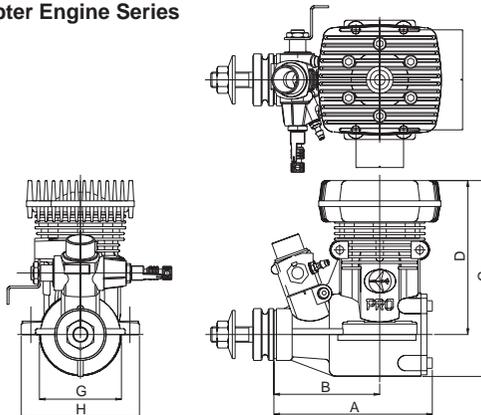
ITEMS	No.	DIPLACEMENT (cc / cu.in)	BORE (mm / in.)	STROKE (mm / in.)	PRACTICAL RPM	OUTPUT (BHP / RPM)	WEIGHT(w/muffler) (g / oz)	NOTE
GP-15MX	9501	2.49 / 0.152	15.2 / 0.598	13.7 / 0.539	2500~18000	0.42 / 17000	262.7 / 9.27	
PRO-15MX	9551	2.49 / 0.152	15.2 / 0.598	13.7 / 0.539	3000~30000	0.47 / 27000	323 / 11.39	
PRO-21MX	9561	3.55 / 0.216	16.8 / 0.661	16 / 0.630	2500~31000	1.2 / 28000	375.8 / 13.25	
PRO-21MX-R	9566	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~38000	2.1 / 30000	385 / 13.58	
PRO-21M-OB	9567	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~38000	2.1 / 30000	720 / 25.39	
PRO-21M-OB	9568	3.46 / 0.211	16.6 / 0.654	16 / 0.630	3000~38000	2.1 / 30000	720 / 25.39	

# ENGINE DIMENSION LIST

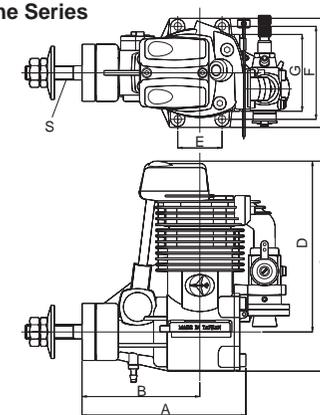
## Two-Stroke Aircraft Engine Series



## Helicopter Engine Series



## Four Stroke Engine Series



## Two-Stroke Aircraft Engine Series

Item	No.	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	F (mm/in.)	G (mm/in.)	H (mm/in.)	S (thread)
GP-07	9007	47.1 / 1.85	31.8 / 1.25	54.7 / 2.15	39.9 / 1.57	10 / 0.39	25 / 0.98	19.4 / 0.76	29.6 / 1.17	M4x0.7
GP-10	9010	55.6 / 2.19	39.7 / 1.56	57.8 / 2.28	46.1 / 1.81	11 / 0.43	31.4 / 1.24	22.8 / 0.90	38 / 1.50	M5 x 0.8
GP-15	9011	57.4 / 2.26	40.4 / 1.59	62.3 / 2.45	49.5 / 1.95	14.4 / 0.57	33 / 1.30	24.6 / 0.97	40 / 1.57	7/32 - 32
GP-25	9020	66.4 / 2.61	46.6 / 1.83	74.6 / 2.94	60.1 / 2.37	14 / 0.55	36 / 1.42	28 / 1.10	45 / 1.77	1/4 - 28
GP-42	9041	75.6 / 2.98	52.8 / 2.08	82.7 / 3.26	65.9 / 2.59	17.5 / 0.69	40.5 / 1.59	32.6 / 1.28	48 / 1.89	1/4 - 28
GP-61	9060	91.9 / 3.62	64.1 / 2.52	104.4 / 4.11	82.9 / 3.26	25 / 0.98	52 / 2.05	42 / 1.65	62 / 2.44	5/16 - 24
PRO-25	9120	74.5 / 2.93	53.5 / 2.11	75.5 / 2.97	60.4 / 2.38	15 / 0.59	38 / 1.50	29.2 / 1.15	45 / 1.77	1/4 - 28
PRO-36	9130	74.5 / 2.93	53 / 2.09	75.3 / 2.96	59.5 / 2.34	15 / 0.59	38 / 1.50	31 / 1.22	45 / 1.77	1/4 - 28
PRO-40	9140	84.9 / 3.34	60.3 / 2.37	86.3 / 3.40	69 / 2.72	17.5 / 0.69	42 / 1.65	34 / 1.34	50 / 1.97	1/4 - 28
PRO-46	9141	84.9 / 3.34	60.3 / 2.37	87 / 3.43	69.7 / 2.74	17.5 / 0.69	42 / 1.65	34 / 1.34	50 / 1.97	1/4 - 28
PRO-61	9160	94.9 / 3.74	67 / 2.64	104.8 / 4.13	83 / 3.27	25 / 0.98	52 / 2.05	43 / 1.69	62 / 2.44	5/16 - 24
PRO-90	9190	94.9 / 3.74	67 / 2.64	105.6 / 4.16	83.8 / 3.30	25 / 0.98	52 / 2.05	43 / 1.69	62 / 2.44	5/16 - 24
PRO-120	9195	106.2 / 4.18	74.4 / 2.93	117.5 / 4.63	93 / 3.66	30 / 1.18	59 / 2.32	48.2 / 1.90	70 / 2.76	5/16 - 24
PRO-120-RP	9196	117.2 / 4.61	74.4 / 2.93	117.5 / 4.63	93 / 3.66	30 / 1.18	59 / 2.32	48.2 / 1.90	70 / 2.76	5/16 - 24

## Helicopter Engine Series

Item	No.	A(mm/in)	B(mm/in)	C(mm/in)	D(mm/in)	E(mm/in)	F(mm/in)	G(mm/in)	H(mm/in)	S(thread)
*PRO-36H	9670	74.5 / 2.93	53 / 2.09	76.8 / 3.02	61 / 2.40	15 / 0.59	38 / 1.50	31 / 1.22	45 / 1.77	1 / 4-28
PRO-39H(R)	9604	74.5 / 2.93	53 / 2.09	76.8 / 3.02	61 / 2.40	15 / 0.59	38 / 1.50	31 / 1.22	45 / 1.77	1 / 4-28
PRO-50H(R)	9605	76.3 / 3.00	51.7 / 2.04	85.6 / 3.37	68.3 / 2.69	17.5 / 0.69	44 / 1.73	34 / 1.34	50 / 1.97	1 / 4-28
PRO-70H(R)	9607	83.1 / 3.27	55.5 / 2.19	101.9 / 4.01	80.1 / 3.15	25 / 0.99	52 / 2.05	43 / 1.69	62 / 2.44	5 / 16-24
PRO-90H(R)	9609	83.1 / 3.27	55.5 / 2.19	102.3 / 4.03	80.5 / 3.17	25 / 0.98	52 / 2.05	43 / 1.69	62 / 2.44	5 / 16-24

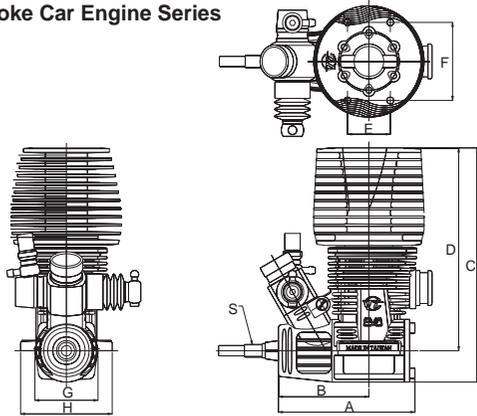
\* Engine discontinued

## Four Stroke Engine Series

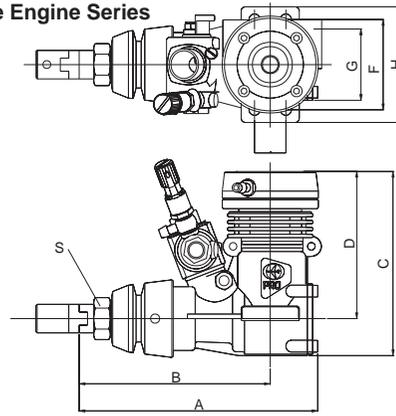
Item	No.	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	F (mm/in.)	G (mm/in.)	H (mm/in.)	S(thread)
F-54S	9800	79 / 3.11	57 / 2.24	99.8 / 3.93	81.5 / 3.21	20 / 0.79	44 / 1.73	35.6 / 1.40	51 / 2.01	1/4 - 28
F-91S	9801	92.5 / 3.64	66.5 / 2.62	117.7 / 4.63	95.7 / 3.77	25 / 0.98	52 / 2.05	43 / 1.69	60 / 2.36	5/16-24

# ENGINE DIMENSION LIST

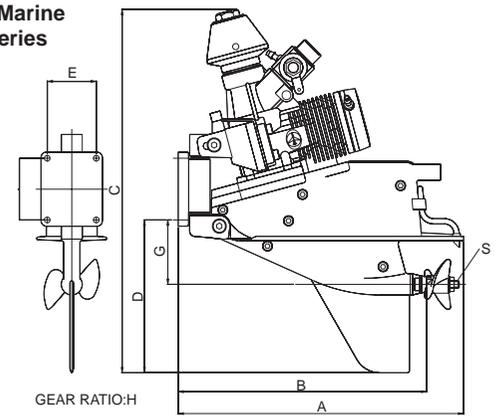
**Two-Stroke Car Engine Series**



**Two-Stroke Marine Engine Series**



**Outboard Marine Engine Series**



**Two-Stroke Car Engine Series**

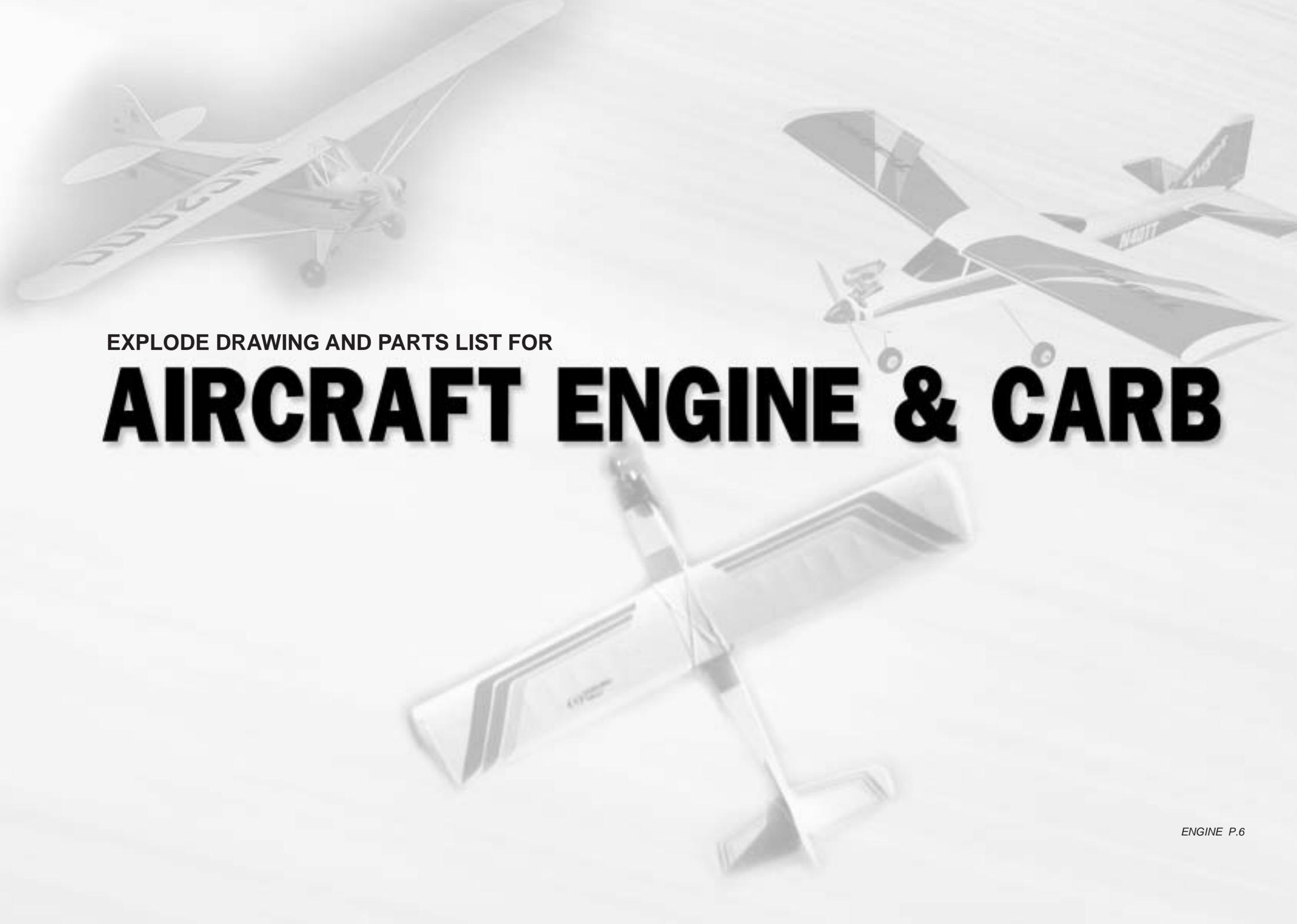
Item	No.	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	F (mm/in.)	G (mm/in.)	H (mm/in.)	S(thread)
PRO-12BZ(P)	9431	57.6/2.27	41/1.61	81.2/3.20	68.3/2.69	11/0.43	31.4/1.24	25.5/1.00	40.2/1.58	1/4"-28
PRO-12BZX(P)	9433	76.6/3.02	41/1.61	81.2/3.20	68.3/2.69	11/0.43	31.4/1.24	25.5/1.00	40.2/1.58	1/4"-28
PRO-12BX(P)	9437	81/3.19	44/1.73	99.5/3.92	79.5/3.13	15/0.59	38/1.50	31/1.22	45/1.77	1/4"-28
PRO-15BZ(P)	9432	57.6/2.27	41/1.61	81.2/3.20	68.3/2.69	11/0.43	31.4/1.24	25.5/1.00	40.2/1.58	1/4"-28
PRO-15BZX(P)	9434	76.6/3.02	41/1.61	81.2/3.20	68.3/2.69	11/0.43	31.4/1.24	25.5/1.00	40.2/1.58	1/4"-28
PRO-15BXS	9414	76.6/3.02	41/1.61	81.2/3.20	68.3/2.69	11/0.43	31.4/1.24	25.5/1.00	40.2/1.58	1/4"-28
PRO-21B-R(P)	9435	64/2.52	44/1.73	99.3/3.91	83.8/3.30	15/0.59	38/1.50	31/1.22	45/1.77	1/4"-28
PRO-21BX-R(P)	9436	81/3.19	44/1.73	103.8/4.09	83.8/3.30	15/0.59	38/1.50	31/1.22	45/1.77	1/4"-28
PRO-21BX-RS	9429	81/3.19	44/1.73	99.5/3.92	79.5/3.13	15/0.59	38/1.50	31/1.22	45/1.77	1/4"-28
PRO-21BX-RP	9441	99.6/3.92	44/1.73	104/4.09	83.8/3.30	15/0.59	37/1.46	31/1.22	45/1.77	1/4"-28
PRO-50BX(R)	9445	76.3/3.00	51.7/2.04	118.1/4.65	100.8/3.97	17.5/0.69	44/1.73	34/1.34	50/1.97	1/4"-28
PRO-70BX(R)	9447	98.4/3.87	55.5/2.19	101.9/4.01	80.1/3.15	25/0.98	52/2.05	43/1.69	62/2.44	1/4"-28
EVO-12	9460	54.1/2.13	35.2/1.39	83.2/3.28	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	1/4"-28
EVO-12X	9461	71.1/2.80	35.2/1.39	86.7/3.41	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	1/4"-28
EVO-15	9462	54.1/2.13	35.2/1.39	83.2/3.28	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	1/4"-28
EVO-15X	9463	71.1/2.80	35.2/1.39	86.7/3.41	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	1/4"-28
EVO-12(TH)	9464	54.1/2.13	35.2/1.39	83.2/3.28	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	M5x0.8
EVO-12X(TH)	9465	71.1/2.80	35.2/1.39	86.7/3.41	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	M5x0.8
EVO-15(TH)	9466	54.1/2.13	35.2/1.39	83.2/3.28	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	M5x0.8
EVO-15X(TH)	9467	71.1/2.80	35.2/1.39	86.7/3.41	70.7/2.78	11/0.43	31.4/1.24	25.5/1.00	39.5/1.56	M5x0.8

**Two-Stroke Marine Engine Series**

Item	No.	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	F (mm/in.)	G (mm/in.)	H (mm/in.)	S(thread)
GP-15MX	9501	96.6 / 3.80	61.8 / 2.43	71.7 / 2.82	53.6 / 2.11	14.4 / 0.57	33 / 1.30	24.6 / 0.97	40 / 1.57	M5 x 0.8
PRO-15MX	9551	99.7 / 3.93	64.2 / 2.53	69.1 / 2.72	51.2 / 2.02	11 / 0.43	31.4 / 1.24	25.5 / 1.00	40.2 / 1.58	M5 x 0.8
PRO-21MX	9561	120.1 / 4.73	81.6 / 3.21	82.1 / 3.23	62 / 2.44	15 / 0.59	38 / 1.50	29.2 / 1.15	45 / 1.77	1/4 - 28
PRO-21MX-R	9556	118.6 / 4.67	81.6 / 3.21	80.1 / 3.15	60 / 2.36	15 / 0.59	38 / 1.50	31 / 1.22	45 / 1.77	1/4 - 28

**Outboard Marine Engine Series**

Item	No.	A (mm/in.)	B (mm/in.)	C (mm/in.)	D (mm/in.)	E (mm/in.)	F (mm/in.)	G (mm/in.)	H (Gear Ratio)	S(thread)
PRO-21M-OB	9567	163 / 6.42	142 / 5.59	205.8 / 8.10	86.5 / 3.41	28 / 1.10	35 / 1.38	36.5 / 1.44	1.19:1	M4 x 0.7
PRO-21M-OB	9568	163 / 6.42	142 / 5.59	205.8 / 8.10	86.5 / 3.41	28 / 1.10	35 / 1.38	36.5 / 1.44	1.04:1	M4 x 0.7



EXPLODE DRAWING AND PARTS LIST FOR

# AIRCRAFT ENGINE & CARB























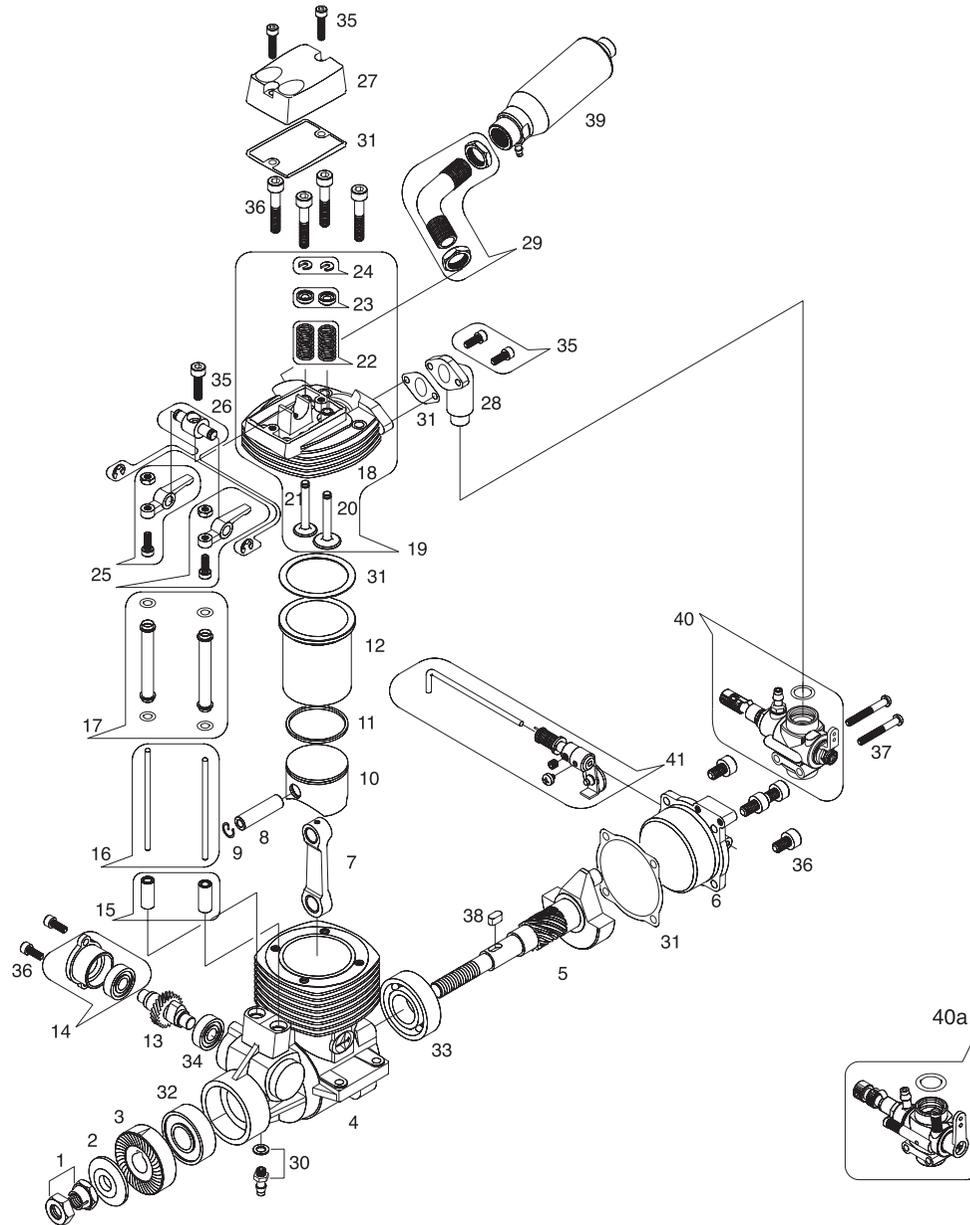






# 9800 F-54S ENGINE SPARE PARTS LIST

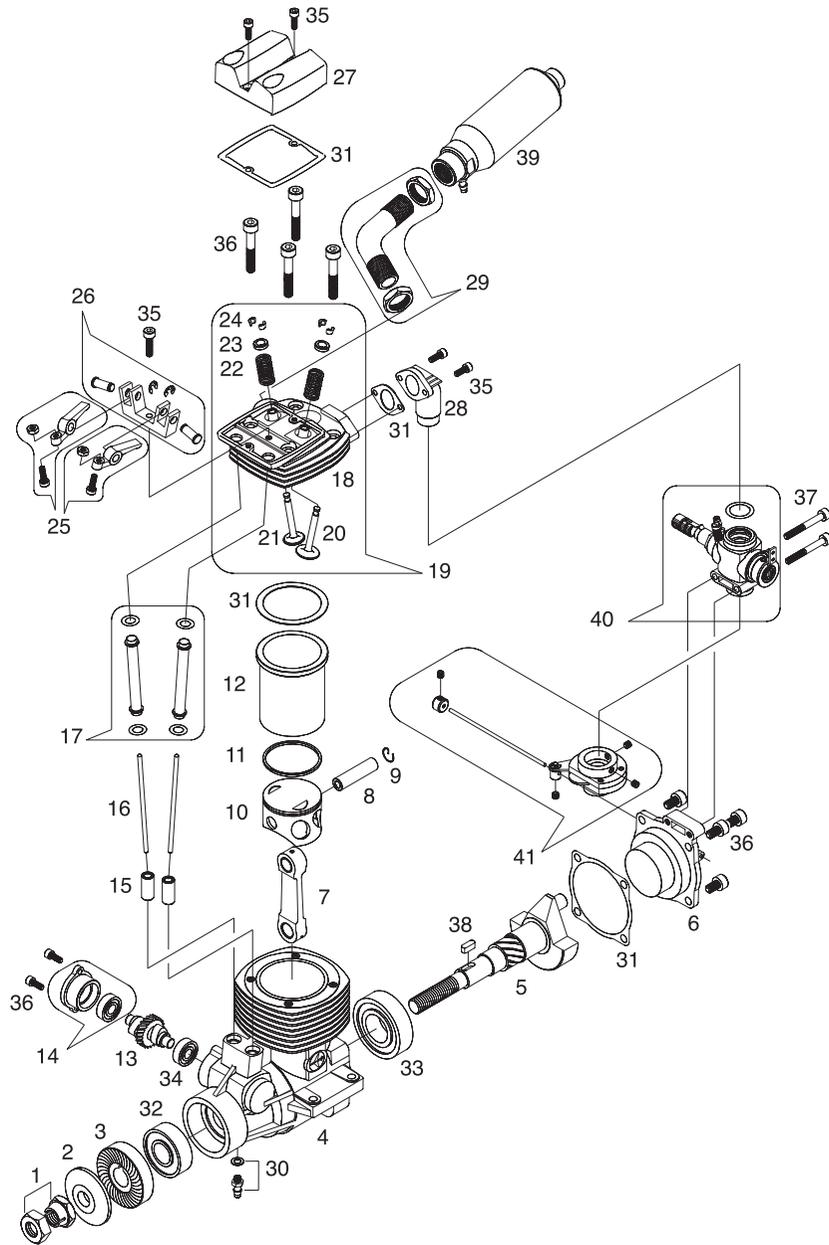
FOUR STROKE AIRCRAFT ENGINE



NO.	PART#	DESCRIPTION	NOTE
1	PN0144	PROP LOCKNUT SET	
2	AA0026B	PROP WASHER	
3	AA0477	DRIVE WASHER	
4	AA0451	CRANKCASE	
5	AA0454	CRANKSHAFT	
6	AA0460	BACKPLATE	
7	AN0458	CONNECTING ROD	
8	AA0459	WRIST PIN ASSEMBLY	
9	AA0327	CIRCLIP	
10	AA0456	PISTON	
11	AA0457	PISTON RING	
12	AA0455	CYLINDER	
13	AA0462	CAMSHAFT	
14	PN0145	CAMSHAFT COVER SET	
15	PN0146	CAM FOLLOWER SET	
16	PN0147	PUSH ROD SET	
17	PN0148	PUSH ROD COVER ASSEMBLY	
18	AN0452	CYLINDER HEAD	
19	PN0149	CYLINDER HEAD (W/VALVE ASSEMBLY)	
20	AA0474	INLET VALVE	
21	AA0475	EXHAUST VALVE	
22	PN0150	VALVE SPRING SET	
23	PN0151	SPRING RETAINER SET	
24	PN0152	SPRING HOLD COLLARS	
25	PN0153	ROCKER ARM SET	
26	PN0154	ROCKER ARM SUPPORT SET	
27	AA0453	ROCKER ARM COVER	
28	AA0476	INLET PIPE	
29	PN0155	EXHAUST PIPE SET	
30	PN0131	BREATHER NIPPLE	
31	PN0156	GASKET SET	
32	AMV608Z	CRANKSHAFT BEARINGS(FRONT)	
33	AMV16001	CRANKSHAFT BEARINGS(REAR)	
34	AMV695ZZ	CAMSHAFT BEARING	
35	PN0157	HEAD SCREWS SET	
36	PN0158	CRANKCASE SCREWS SET	
37	PN0159	CARBURETOR BOLTS SET	
38	PN0160	CRANKSHAFT KEY SET	
39	9220	MUFFLER ASSEMBLY	
40	9290N	CARB. ASSY. (W/MIXTURE METERING SCREW)	
40a	9290	CARB. ASSY.	
41	9292	CHOKE VALVE ASSEMBLY	

# 9801 F-91S ENGINE SPARE PARTS LIST

FOUR STROKE AIRCRAFT ENGINE



NO.	PART#	DESCRIPTION	NOTE
1	PN0119	PROP LOCKNUT SET	
2	AA0512B	PROP WASHER	
3	AA0507	DRIVE WASHER	
4	AA0481	CRANKCASE	
5	AA0484	CRANKSHAFT	
6	AA0490	BACKPLATE	
7	AN0488	CONNECTING ROD	
8	AA0489	WRIST PIN ASSEMBLY	
9	AA0513	CIRCLIP	
10	AA0486	PISTON	
11	AA0487	PISTON RING	
12	AA0485	CYLINDER	
13	AA0492	CAMSHAFT	
14	PN0120	CAMSHAFT COVER SET	
15	PN0121	CAM FOLLOWER SET	
16	PN0122	PUSH ROD SET	
17	PN0123	PUSH ROD COVER ASSEMBLY	
18	AN0482	CYLINDER HEAD	
19	PN0124	CYLINDER HEAD (W/VALVE ASSEMBLY)	
20	AA0504	INLET VALVE	
21	AA0505	EXHAUST VALVE	
22	PN0125	VALVE SPRING SET	
23	PN0126	SPRING RETAINER SET	
24	PN0127	SPRING HOLD COLLARS	
25	PN0128	ROCKER ARM SET	
26	PN0129	ROCKER ARM SUPPORT SET	
27	AA0483	ROCKER ARM COVER	
28	AA0506	INLET PIPE	
29	PN0130	EXHAUST PIPE SET	
30	PN0131	BREATHER NIPPLE	
31	PN0132	GASKET SET	
32	AMV6000	CRANKSHAFT BEARINGS(FRONT)	
33	AMV6002	CRANKSHAFT BEARINGS(REAR)	
34	AMV695ZZ	CAMSHAFT BEARING	
35	PN0133	HEAD SCREWS SET	
36	PN0134	CRANKCASE SCREWS SET	
37	PN0135	CARBURETOR BOLTS SET	
38	PN0136	CRANKSHAFT KEY SET	
39	9221	MUFFLER ASSEMBLY	
40	9291	CARBURETOR ASSEMBLY	
41	9293	CHOKE VALVE ASSEMBLY	

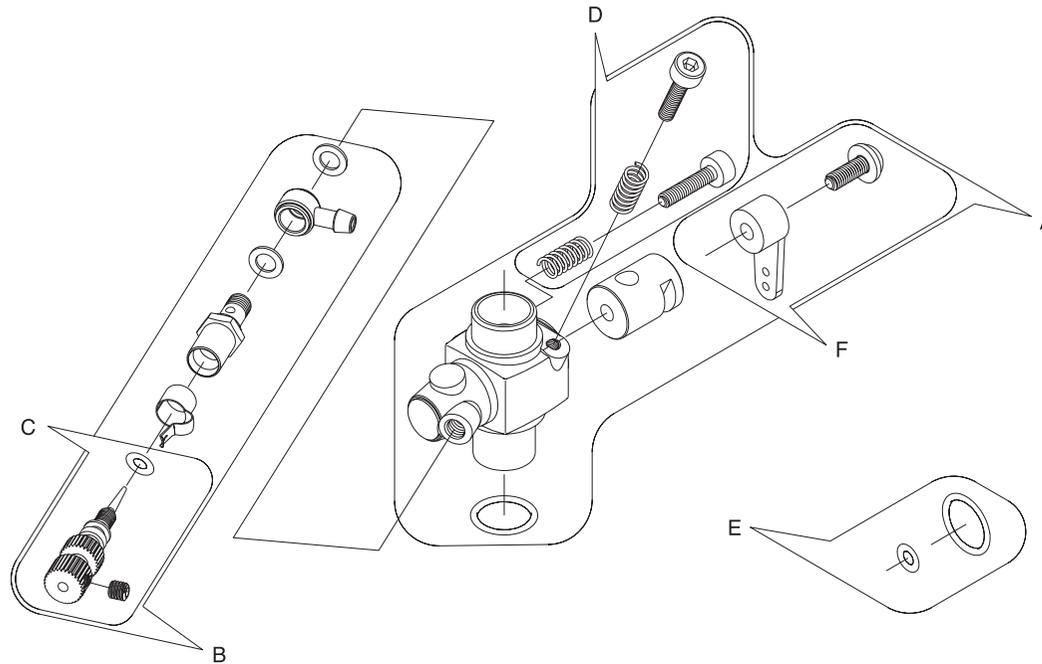
# CARBURETOR SPARE PARTS LIST

FOR AIRCRAFT ENGINE

9276 GP-10 / 9010

9277 GP-15 / 9011

9278 GP-25 / 9020

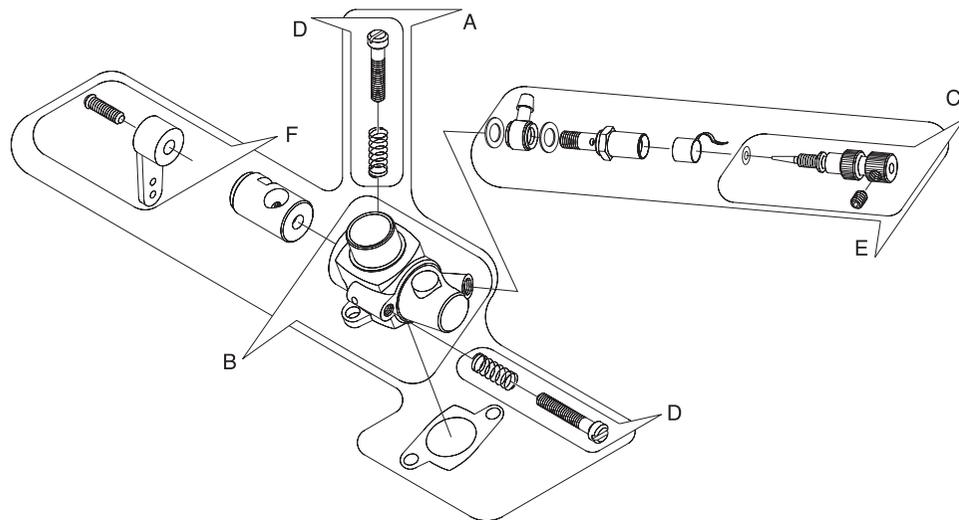


CARBURETOR ITEM NO		9276		9277		9278	
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1151		PN1153		PN1154	
B	SPRAY BAR ASSY W/NEEDLE VALVE	PN1146		PN1146		PN1155	
C	NEEDLE VALVE ONLY	PN1147		PN1147		PN1156	
D	THROTTLE-STOP SCREW SET	PN1152		PN1152		PN1152	
E	O RING SET	PN1064		PN1064		PN1064	
F	THROTTLE LEVER	PN1065		PN1065		PN1065	

# CARBURETOR SPARE PARTS LIST

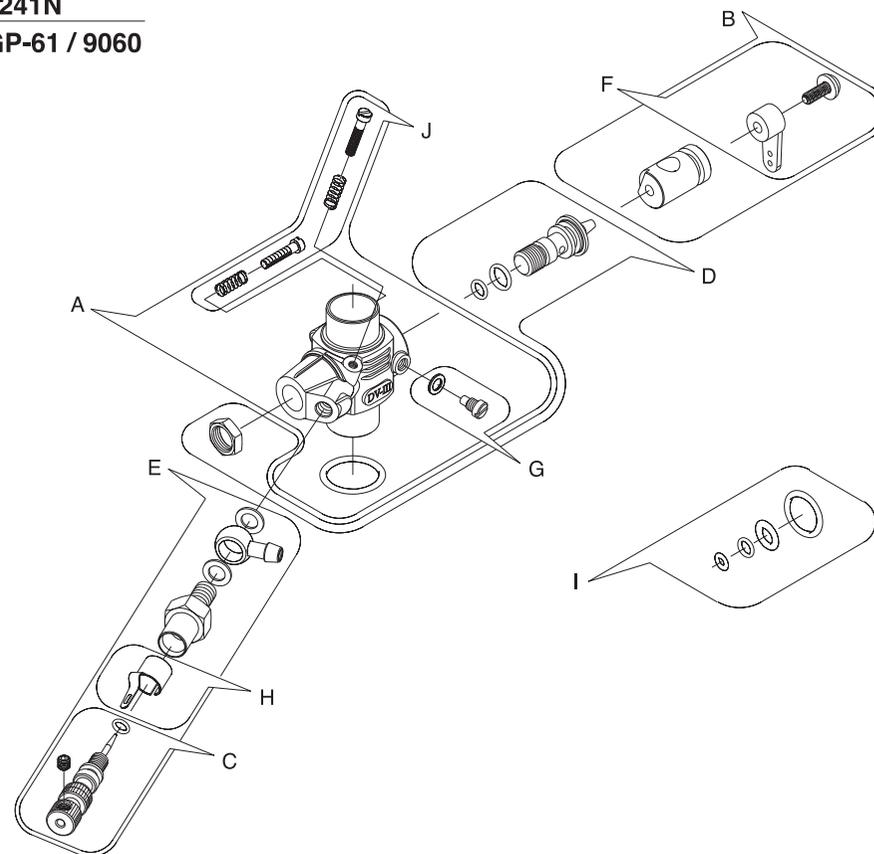
FOR AIRCRAFT ENGINE

**9224**  
GP-42 / 9041



CARBURETOR ITEM NO.		9224	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1110	
B	CARBURETOR BODY	AN1231	
C	NEEDLE VALVE ONLY	PN1111	
D	THROTTLE-STOP SCREW SET	PN1061	
E	NEEDLE VALVE ASSY	PN1112	
F	THROTTLE LEVER	PN1065	

**9241N**  
GP-61 / 9060

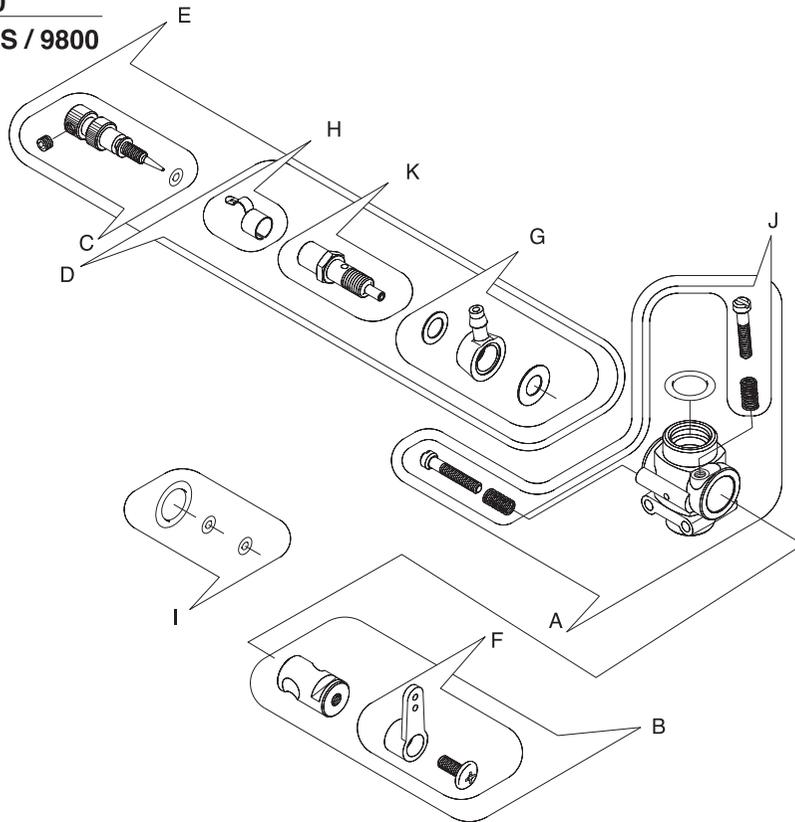


CARBURETOR ITEM NO.		9241N	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1198	
B	CARB. ROTOR ASSY	PN1012	
C	NEEDLE VALVE ONLY	PN1173	
D	SPRAY BAR ASSEMBLY	PN1174	
E	NEEDLE VALVE ASSY.	PN1175	
F	THROTTLE LEVER	PN1013	
G	BOLT SET	AA1108	
H	RATECHET SPRING	AA1025B	
I	O RING SET	PN1199	
J	THROTTLE STOP SCREW SET	PN1014	

# CARBURETOR SPARE PARTS LIST

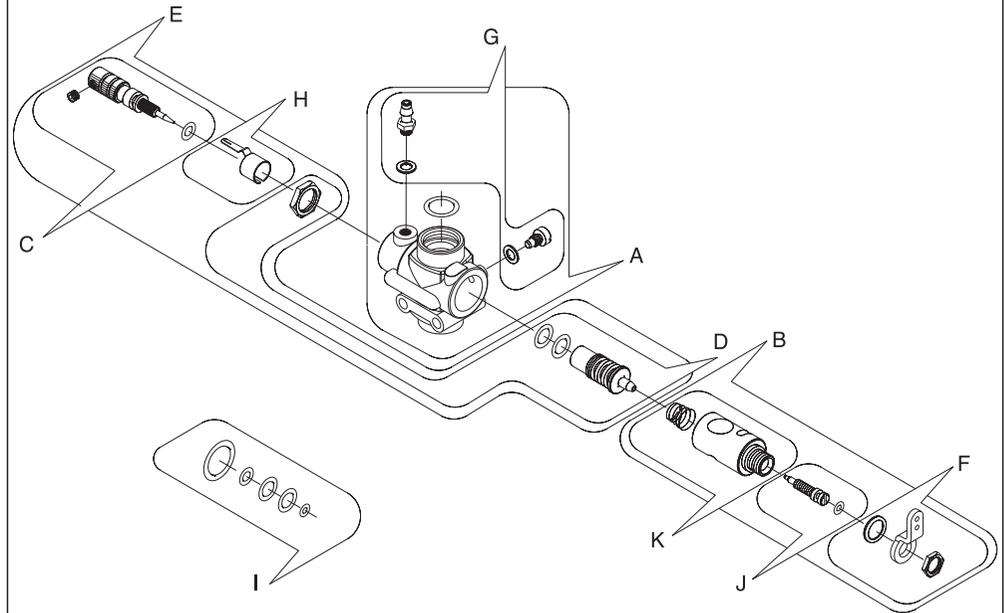
FOR FOUR STROKE ENGINE

9290  
F-54S / 9800



CARBURETOR ITEM NO.		9290	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1113	
B	CARB. ROTOR ASSY	PN1114	
C	NEEDLE VALVE ONLY	PN1115	
D	SPRAY BAR ASSEMBLY	PN1116	
E	NEEDLE VALVE ASSY.	PN1117	
F	THROTTLE LEVER	PN1013	
G	FUEL INLET ASSY.	PN1119	
H	RATECHET SPRING	AA1181B	
I	O RING SET	PN1118	
J	THROTTLE-STOP SCREW SET	PN1014	
K	SPRAY BAR ONLY	AA1178	

9290N  
F-54S / 9800

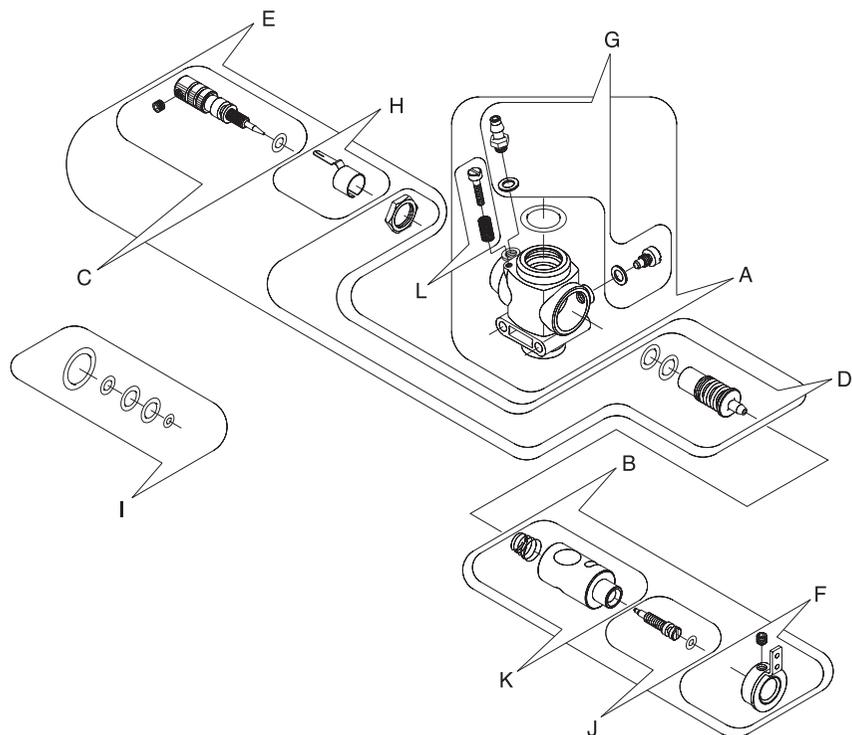


CARBURETOR ITEM NO.		9290N	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1296	
B	CARB. ROTOR ASSY	PN1297	
C	NEEDLE VALVE ONLY	PN1156	
D	SPRAY BAR ASSEMBLY	PN1298	
E	NEEDLE VALVE ASSY.	PN1299	
F	THROTTLE LEVER	PN1038	
G	BOLT&FUEL INLET	PN1300	
H	RATECHET SPRING	AA1181B	
I	O RING SET	PN1301	
J	MIXTURE METERING SCREW SET	PN1193	
K	THROTTLE ROTOR SET	PN1302	

# CARBURETOR SPARE PARTS LIST

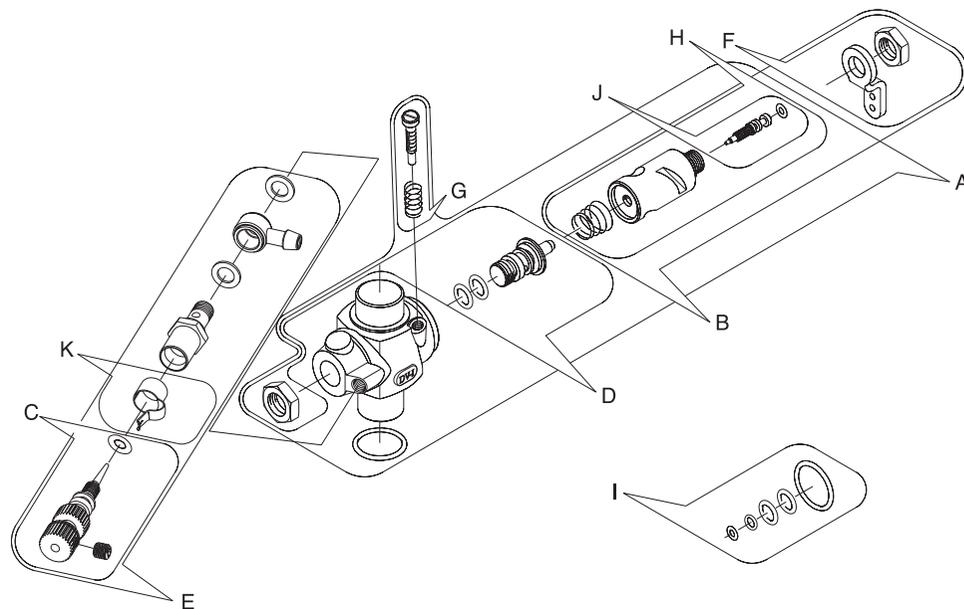
FOR AIRCRAFT ENGINE

**9291**  
F91S / 9801



CARBURETOR ITEM NO.		9291	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1089	
B	CARB. ROTOR ASSY	PN1090	
C	NEEDLE VALVE ONLY	PN1091	
D	SPRAY BAR ASSEMBLY	PN1092	
E	NEEDLE VALVE ASSY.	PN1093	
F	THROTTLE LEVER	PN1006	
G	BOLT&FUEL INLET	PN1007	
H	RATECHET SPRING	AA1025B	
I	O RING SET	PN1094	
J	MIXTURE METERING SCREW SET	PN1095	
K	THROTTLE ROTOR SET	PN1096	
L	IDLE ADJUSTING SCREW	PN1097	

**9230**  
PRO-25 / 9120

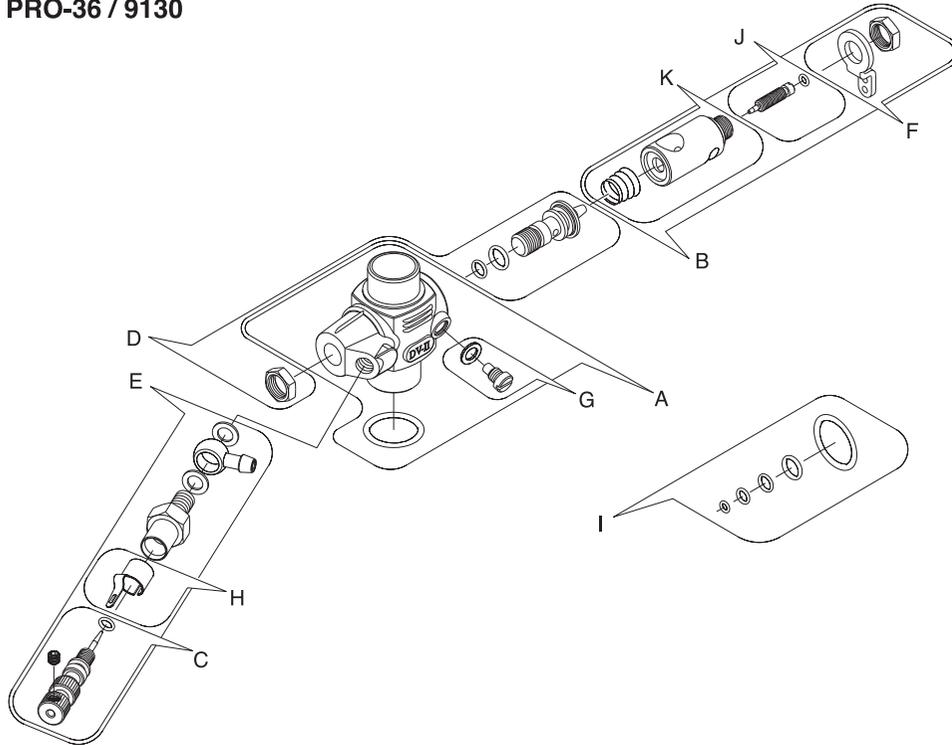


CARBURETOR ITEM NO.		9230	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1190	
B	CARB. ROTOR ASSY	PN1191	
C	NEEDLE VALVE ONLY	PN1156	
D	SPRAY BAR ASSEMBLY	PN1036	
E	NEEDLE VALVE ASSY.	PN1155	
F	THROTTLE LEVER	PN1038	
G	BOLT&SPRING SET	PN1039	
H	THROTTLE ROTOR SET	PN1192	
I	O RING SET	PN1041	
J	MIXTURE METERING SCREW SET	PN1193	
K	RATECHET SPRING	AA1181B	

# CARBURETOR SPARE PARTS LIST

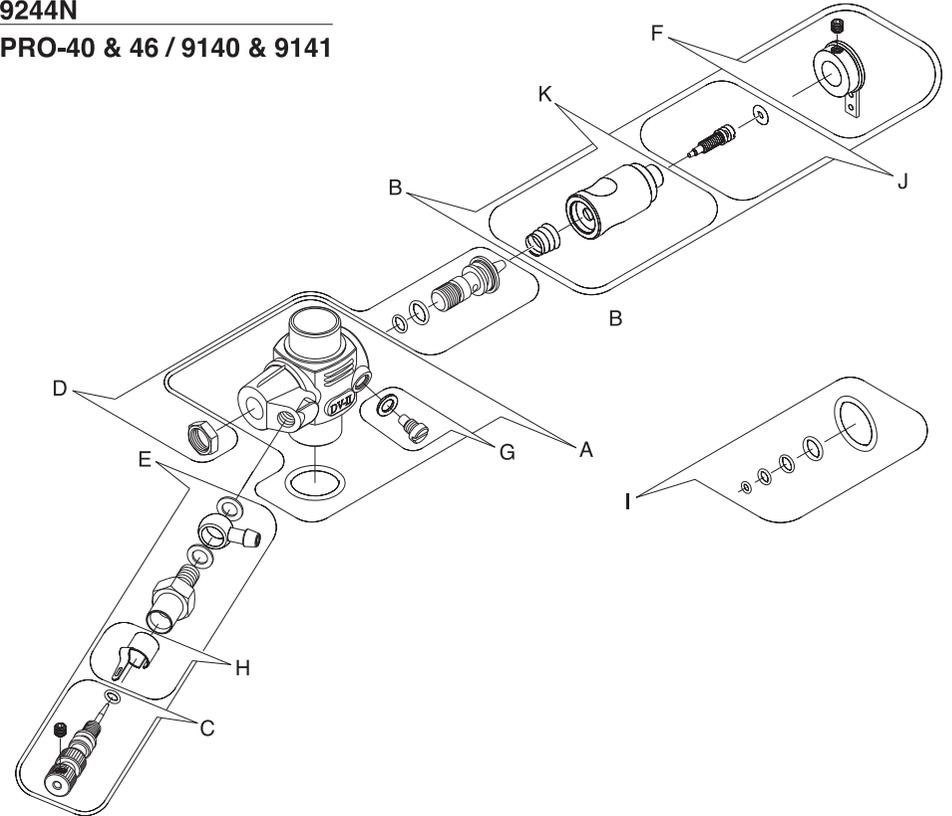
FOR AIRCRAFT ENGINE

**9258N**  
PRO-36 / 9130



CARBURETOR ITEM NO.		9258N	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1164	
B	CARB. ROTOR ASSY	PN1106	
C	NEEDLE VALVE ONLY	PN1029	
D	SPRAY BAR ASSEMBLY	PN1166	
E	NEEDLE VALVE ASSY.	PN1171	
F	THROTTLE LEVER	PN1107	
G	BOLT	AA1108	
H	RATECHET SPRING	AA1025B	
I	O RING SET	PN1168	
J	MIXTURE METERING SCREW SET	PN1104	
K	THROTTLE ROTOR SET	PN1108	

**9244N**  
PRO-40 & 46 / 9140 & 9141

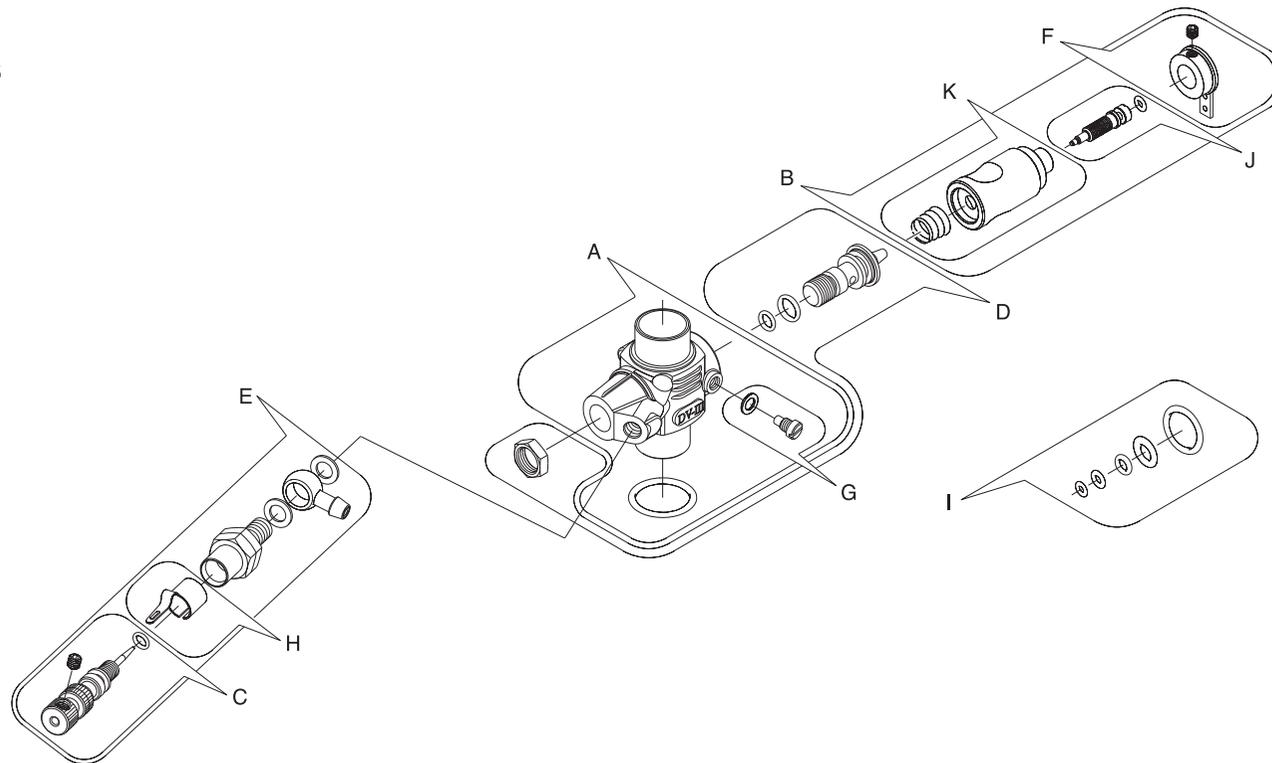


CARBURETOR ITEM NO.		9244N	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1169	
B	CARB. ROTOR ASSY	PN1028	
C	NEEDLE VALVE ONLY	PN1029	
D	SPRAY BAR ASSEMBLY	PN1166	
E	NEEDLE VALVE ASSY.	PN1171	
F	THROTTLE LEVER	PN1006	
G	BOLT	AA1108	
H	RATECHET SPRING	AA1025B	
I	O RING SET	PN1168	
J	MIXTURE METERING SCREW SET	PN1031	
K	THROTTLE ROTOR SET	PN1032	

# CARBURETOR SPARE PARTS LIST

FOR AIRCRAFT ENGINE

9240N PRO-61 / 9160  
 9790 PRO-90 / 9190  
 9287 PRO-120 / 9195  
 9257N PRO-120RP / 9196



CARBURETOR ITEM NO		9240N		9790		9287		9257N	
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE	PART#	NOTE	PART#	NOTE
A	CARBURETOR BODY	PN1172		PN1292		PN1172		PN1177	
B	CARB. ROTOR ASSY	PN1002		PN1293		PN1002		PN1132	
C	NEEDLE VALVE ONLY	PN1173		PN1173		PN1173		PN1173	
D	SPRAY BAR ASSEMBLY	PN1174		PN1174		PN1174		PN1174	
E	NEEDLE VALVE ASSY.	PN1175		PN1175		PN1165		PN1165	
F	THROTTLE LEVER	PN1006		PN1006		PN1006		PN1006	
G	BOLT&FUEL INLET	AA1108		AA1108		AA1108		AA1108	
H	RATECHET SPRING	AA1025B		AA1025B		AA1025B		AA1025B	
I	O RING SET	PN1176		PN1176		PN1176		PN1176	
J	MIXTURE METERING SCREW SET	PN1009		PN1009		PN1009		PN1133	
K	THROTTLE ROTOR SET	PN1010		PN1294		PN1010		PN1134	



EXPLODE DRAWING AND PARTS LIST FOR

# HELICOPTER ENGINE & CARB









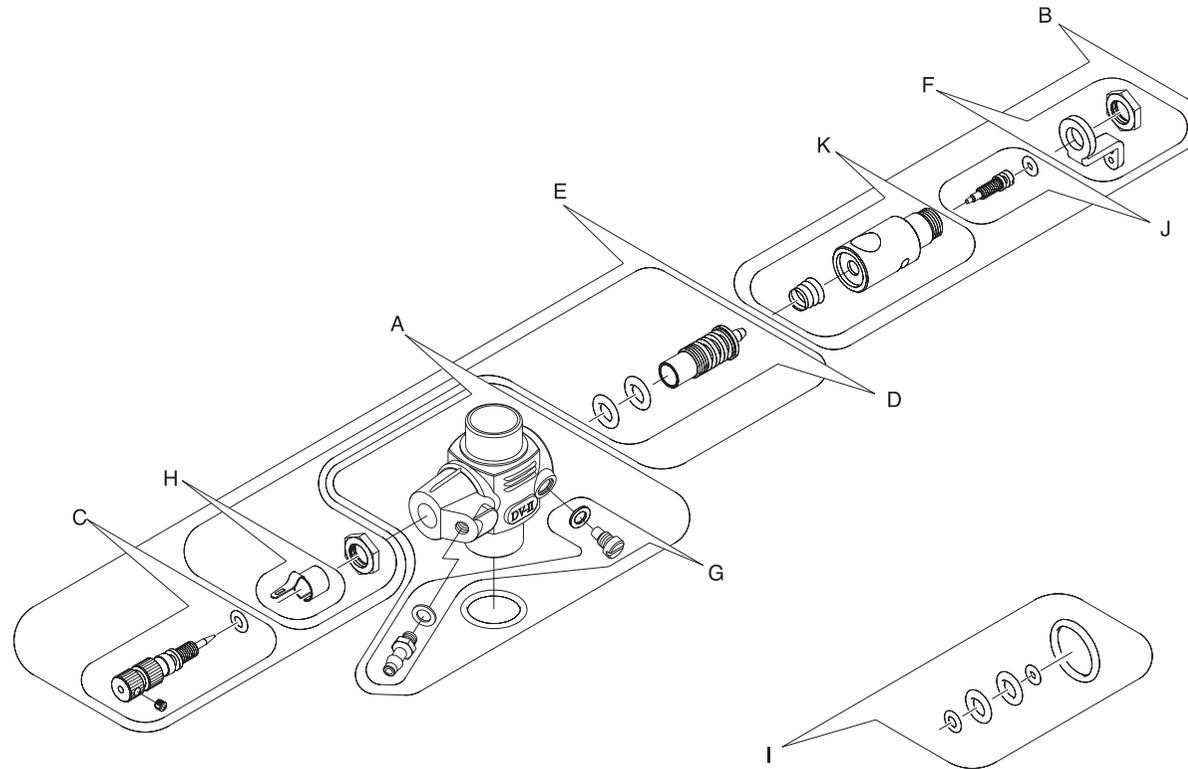




# CARBURETOR SPARE PARTS LIST

FOR HELICOPTER ENGINE

- 9228N PRO-36H / 9670
- 9204N PRO-39H(R) / 9604
- 9239N PRO-46H & 50H / 9680 & 9605
- 9234N PRO-61H / 9695
- 9294 PRO-70H(R) / 9607
- 9266 PRO-90H(R) / 9609



CARBURETOR ITEM NO		9228N		9239N		9204N		9234N		9294		9266	
NO.	DESCRIPTION	PART#	NOTE										
A	CARBURETOR BODY	PN1178		PN1181		PN1263		PN1184		PN1200		PN1254	
B	CARB. ROTOR ASSY	PN1098		PN1205		PN1205		PN1087		PN1201		PN1255	
C	NEEDLE VALVE ONLY	PN1029		PN1173		PN1264		PN1173		PN1173		PN1173	
D	SPRAY BAR ASSEMBLY	PN1179		PN1179		PN1179		PN1185		PN1185		PN1185	
E	NEEDLE VALVE ASSY.	PN1180		PN1251		PN1251		PN1186		PN1186		PN1186	
F	THROTTLE LEVER	PN1102		PN1102		PN1102		PN1072		PN1102		PN1102	
G	BOLT&FUEL INLET	PN1007											
H	RATECHET SPRING	AA1025B											
I	O RING SET	PN1103		PN1252		PN1252		PN1176		PN1202		PN1202	
J	MIXTURE METERING SCREW SET	PN1104		PN1206		PN1265		PN1009		PN1203		PN1203	
K	THROTTLE ROTOR SET	PN1105		PN1207		PN1266		PN1088		PN1204		PN1256	



EXPLODE DRAWING AND PARTS LIST FOR

# CAR ENGINE & CARB































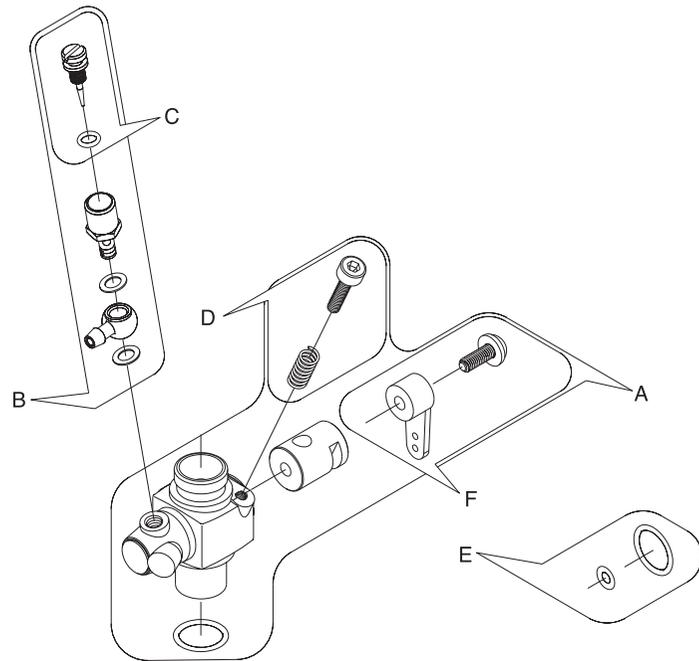




# CARBURETOR SPARE PARTS LIST

FOR CAR ENGINE

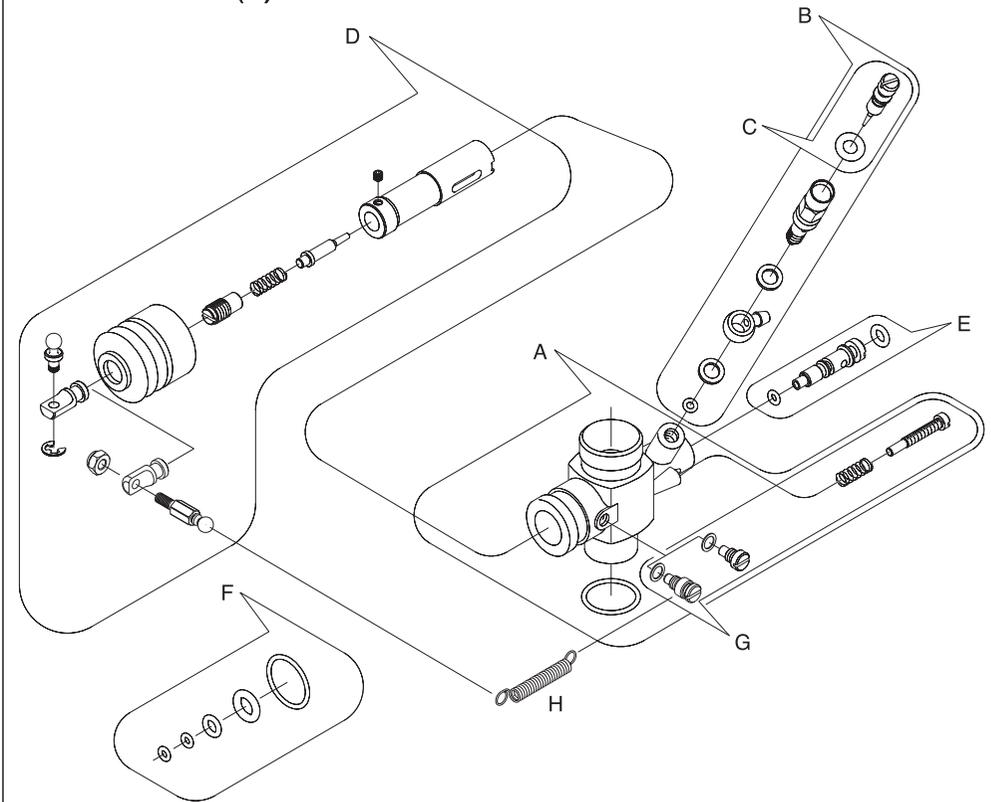
- 9274 GP-10BX / 9301
- 9275 GP-15BX / 9304
- ※9269 PRO-15BXS / 9414



※ Carburetor discontinued.  
Spare parts available.

CARBURETOR ITEM NO	9274		9275		※9269		
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1145		PN1149		PN1150	
B	SPRAY BAR ASSY W/NEEDLE VALVE	PN1037		PN1037		PN1037	
C	NEEDLE VALVE ONLY	PN1035		PN1035		PN1035	
D	THROTTLE-STOP SCREW SET	PN1148		PN1148		PN1148	
E	O RING SET	PN1157		PN1157		PN1157	
F	THROTTLE LEVER	PN1065		PN1065		PN1065	

- 9229 PRO-21BX(P) / 9421 / 9423
- 9245 PRO-21BX-RS / 9429 / 9435 / 9436
- 9745 PRO-21BX-RP / 9441
- 9750 PRO-50BX(R) / 9445



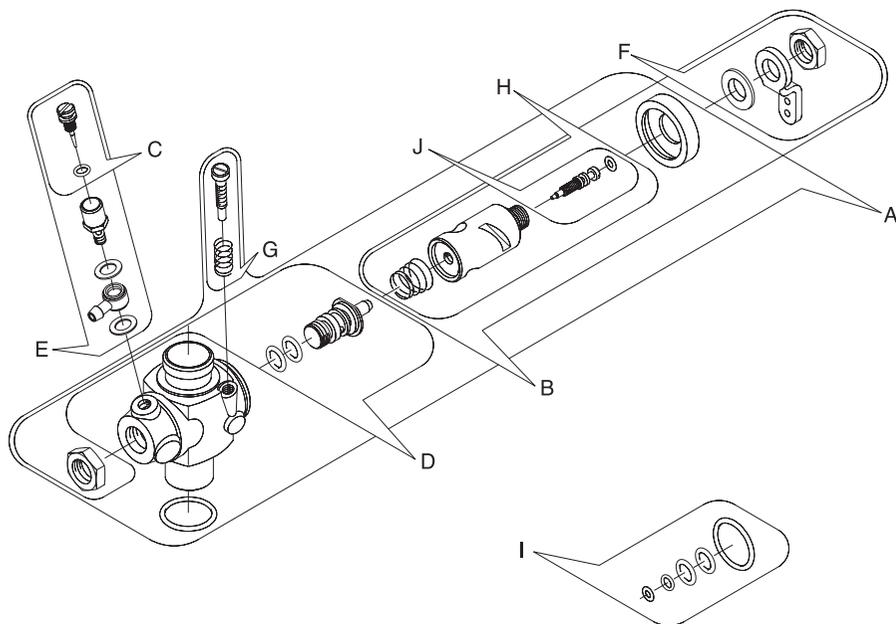
CARBURETOR ITEM NO	9229		9245		9745		9750		
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE	PART#	NOTE	PART#	NOTE
A	CARBURETOR BODY	PN1062		PN1046		PN1270		PN1295	
B	NEEDLE VALVE ASSY	PN1047		PN1047		PN1047		PN1047	
C	NEEDLE VALVE ONLY	PN1048		PN1048		PN1048		PN1048	
D	THROTTLE ROTOR SET	PN1049		PN1049		PN1271		PN1049	
E	MIXTURE METERING SCREW SET	PN1050		PN1050		PN1050		PN1050	
F	O RING SET	PN1051		PN1051		PN1051		PN1051	
G	BOLT&FUEL INLET	PN1052		PN1052		PN1272		PN1052	
H	RECOVER SPRING	*****		*****		AA1372		*****	

# CARBURETOR SPARE PARTS LIST

FOR CAR ENGINE

9222 PRO-12B / 9431 / 9433 / 9437

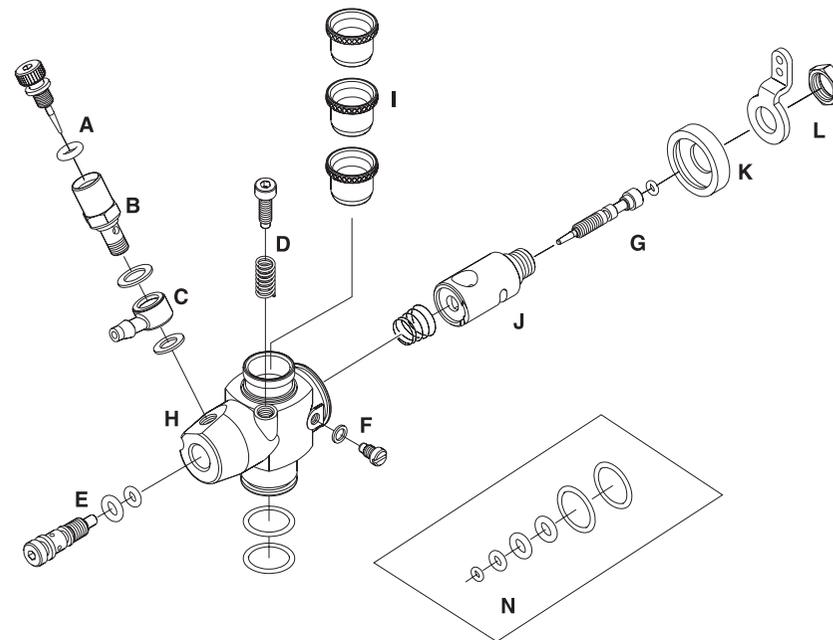
9223 PRO-15B / 9432 / 9434 / 9414



CARBURETOR ITEM NO		9222		9223	
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1123		PN1126	
B	CARB. ROTOR ASSY	PN1125		PN1128	
C	NEEDLE VALVE ONLY	PN1035		PN1035	
D	SPRAY BAR ASSEMBLY	PN1036		PN1036	
E	NEEDLE VALVE ASSY.	PN1037		PN1037	
F	THROTTLE LEVER	PN1038		PN1038	
G	BOLT&FUEL INLET	PN1039		PN1039	
H	THROTTLE ROTOR SET	PN1124		PN1127	
I	O RING SET	PN1041		PN1041	
J	MIXTURE METERING SCREW SET	PN1042		PN1042	

9264 EVO-12 / 9460 / 9461 / 9464 / 9465

9265 EVO-15 / 9462 / 9463 / 9466 / 9467

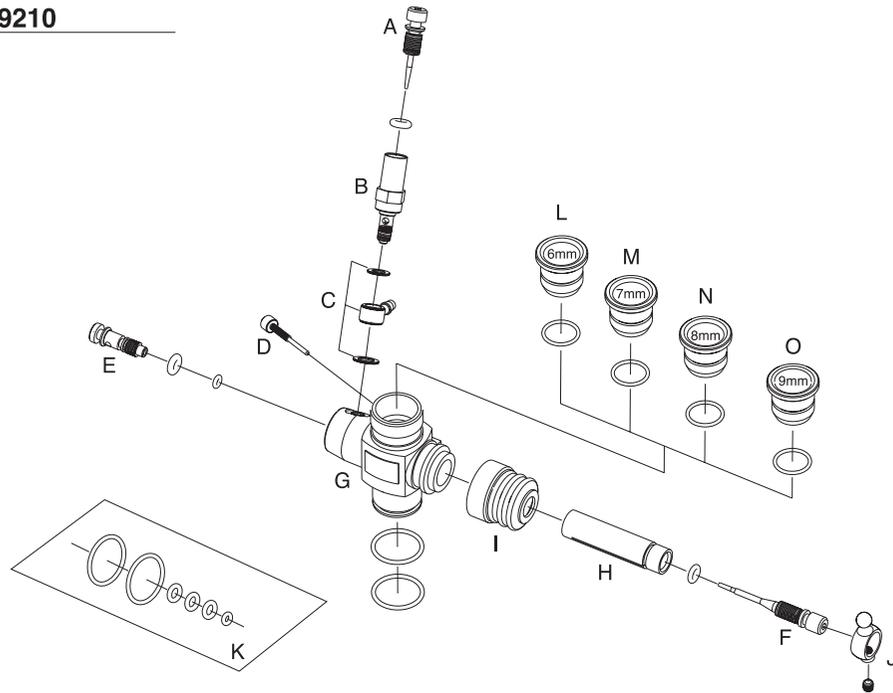


CARBURETOR ITEM NO		9264		9265	
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE
A	HIGH SPEED NEEDLE	PN1210		PN1210	
B	HIGH SPEED NEEDLE RETAINER	PN1212		PN1212	
C	FUEL INLET	PN1217		PN1217	
D	IDLE NEEDLE	PN1244		PN1244	
E	MIDDLE SPEED NEEDLE	PN1211		PN1211	
F	ROTOR RETAINING SCREW	PN1213		PN1213	
G	LOW SPEED NEEDLE	PN1216		PN1216	
H	CARBURETOR BODY	PN1208		PN1219	
I	CARBURETOR INSERT SET	PN1218		PN1218	
J	CARBURETOR ROTOR	PN1214		PN1221	
K	THROTTLE BOOT	AA1223		AA1223	
L	THROTTLE LEVER	PN1107		PN1107	
N	CARBURETOR O-RING SET	PN1215		PN1215	

# CARBURETOR SPARE PARTS LIST

FOR CAR ENGINE

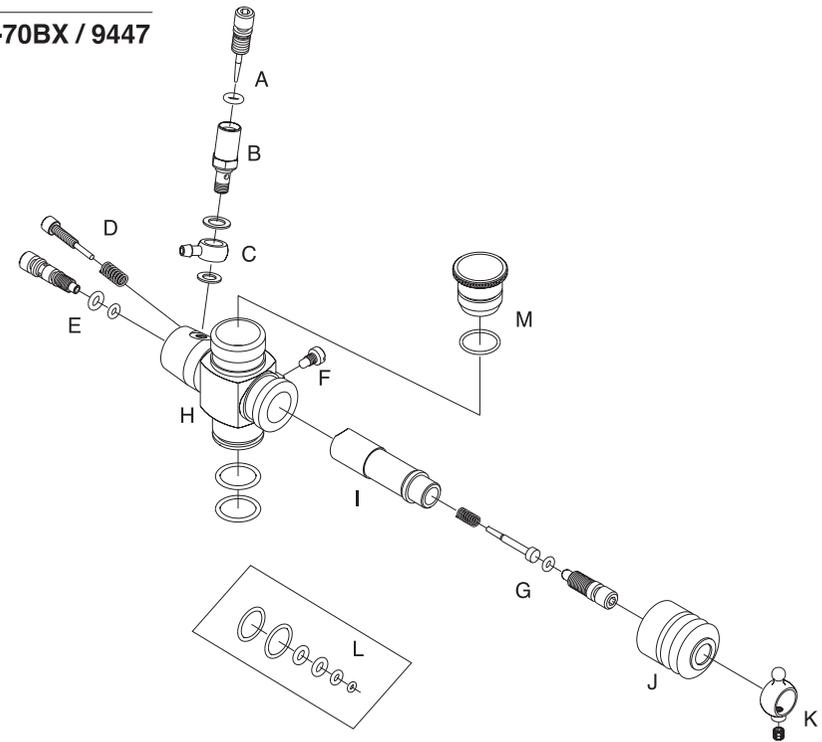
9210



CARBURETOR ITEM NO		9210	
NO.	DESCRIPTION	PART#	NOTE
A	HIGH SPEED NEEDLE	PN1257	
B	HIGH SPEED NEEDLE RETAINER	AA1346	
C	FUEL INLET	PN1217	
D	IDLE NEEDLE	PN1258	
E	MIDDLE SPEED NEEDLE	PN1259	
F	LOW SPEED NEEDLE	PN1260	
G	CARBURETOR BODY	PN1261	
H	CARBURETOR SLIDE	AA1351	
I	THROTTLE BOOT	AA1335	
J	THROTTLE LEVER	PN1234	
K	O- RING SET	PN1262	
L	CARBURETOR INSERT, 6mm	PN1240	
M	CARBURETOR INSERT, 7mm	PN1241	
N	CARBURETOR INSERT, 8mm	PN1239	
O	CARBURETOR INSERT, 9mm	PN1242	

9289

PRO-70BX / 9447



CARBURETOR ITEM NO		9289	
NO.	DESCRIPTION	PART#	NOTE
A	HIGH SPEED NEEDLE	PN1231	
B	HIGH SPEED NEEDLE RETAINER	AA1309	
C	FUEL INLET	PN1217	
D	IDLE NEEDLE	PN1235	
E	MIDDLE SPEED NEEDLE	PN1232	
F	ROTOR RETAINING SCREW	AA1108	
G	LOW SPEED NEEDLE	PN1237	
H	CARBURETOR BODY	PN1229	
I	CARBURETOR SLIDE	AA1303	
J	THROTTLE BOOT	AA1335	
K	THROTTLE LEVER	PN1234	
L	CARBURETOR O RING SET	PN1236	
M	CARBURETOR INSERT, 9mm	PN1242	

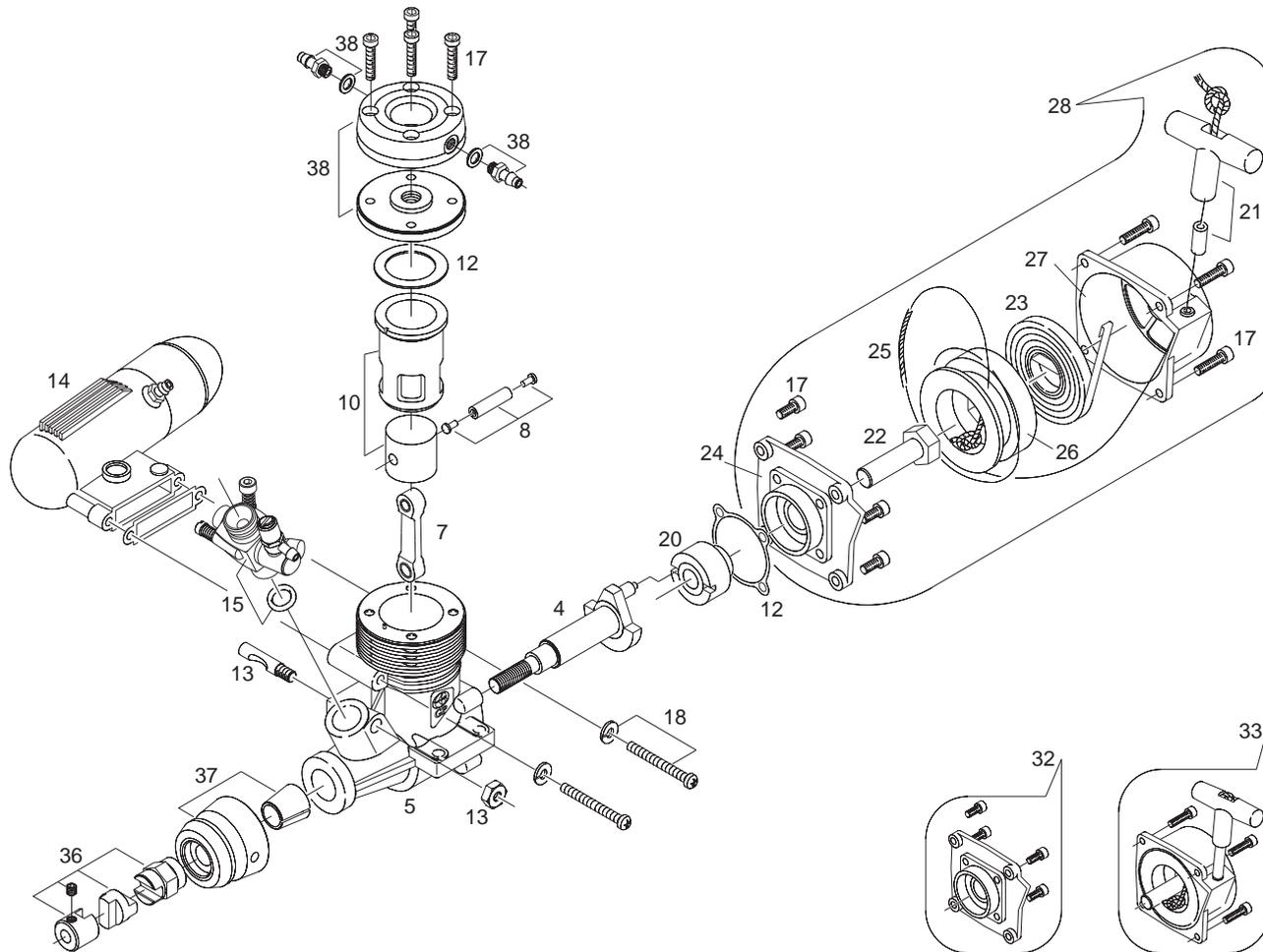
EXPLODE DRAWING AND PARTS LIST FOR

# MARINE ENGINE & CARB



# 9501 GP-15MX ENGINE SPARE PARTS LIST

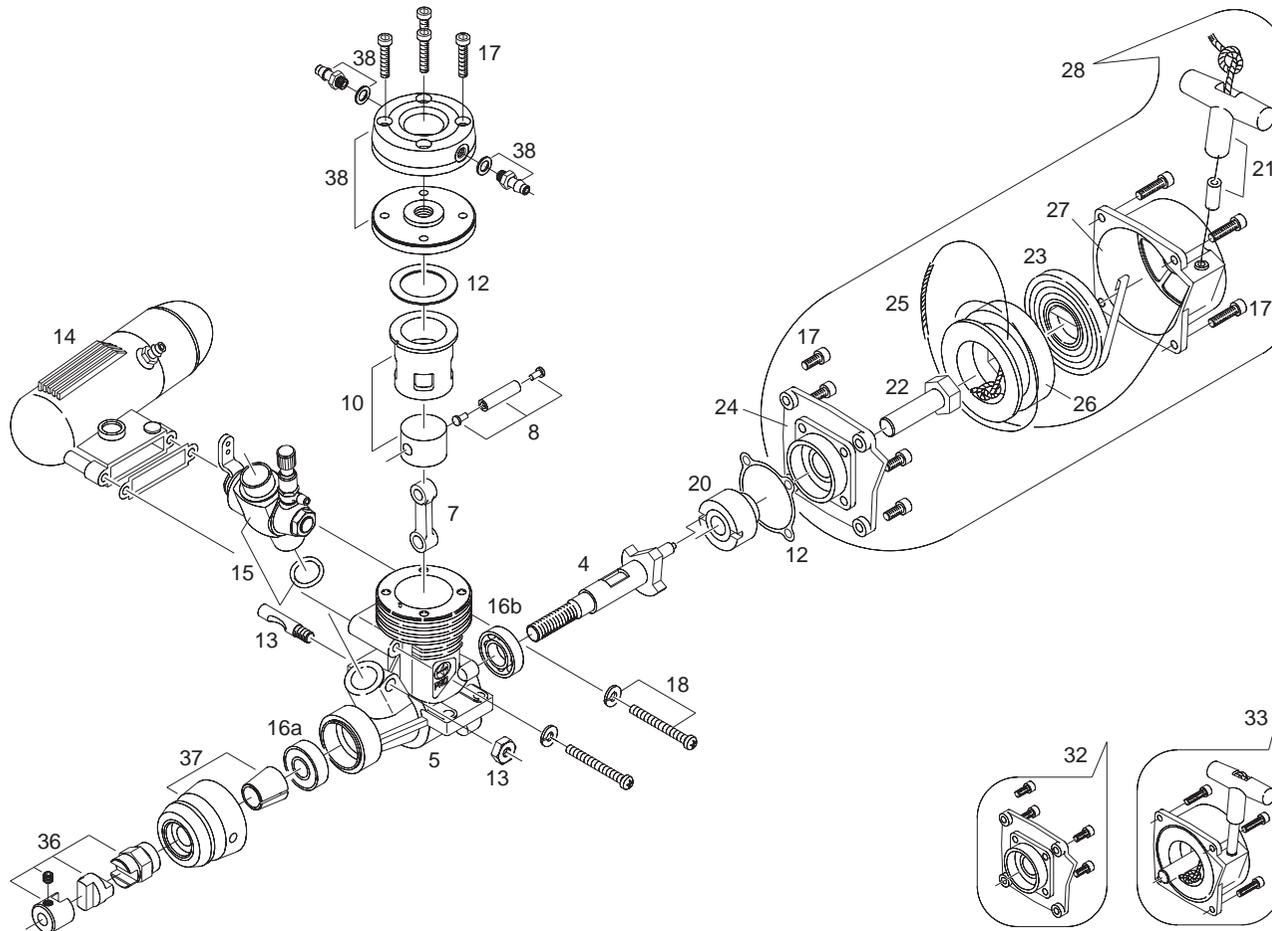
TWO STROKE MARINE ENGINE



NO.	PART#	DESCRIPTION	NOTE
1	*****	PROP NUT	
2	*****	PROP WASHER	
3	*****	DRIVE WASHER SET	
4	AA0388	CRANKSHAFT	
5	PN0069	CRANKCASE	
6	*****	BACKPLATE	
7	AN0433	CONNECTING ROD	
8	AN0148	WRIST PIN ASSEMBLY	
9	*****	CIRCLIP	
10	AN0149	CYLINDER & PISTON	
11	*****	CYLINDER HEAD	
12	PN0051	GASKET SET	
13	PN0046	CARB RETAINING BOLT	
14	9217	MUFFLER ASSEMBLY	
15	9226	CARBURETOR ASSEMBLY	
16a	*****	BALL BEARING, FRONT	
16b	*****	BALL BEARING, REAR	
17	PN0087	SCREW SET	
18	PN1513	MUFFLER BOLT SET	
19	*****	AIR CLEANER SET	
20	AN0315	ONE WAY CLUTCH SET	
21	PN0050	HANDLE SET	
22	AA0313	STARTING AXLE	
23	AA0316	STARTING SPRING	
24	AN0241	BACKPLATE	
25	AA0155	STARTING WHEEL WIRE	
26	AA0312	STARTING WHEEL	
27	AN0314	STARTING WHEEL COVER	
28	PN0016	STARTING SET	
29	*****	CLUTCH BAG	
30	*****	CLUTCH BELL BAG	
31	*****	E RING SET	
32	PN0017	BACKPLATE & SCREW SET	
33	PN0018	STARTING WHEEL COVER SET	
34	*****	FLYWHEEL BAG	
35	*****	EXHAUST HEADER PIPES	
36	PN0079	MARINE UNIVERSAL JOINT	
37	PN0080	FLYWHEEL	
38	PN0088	WATER COOLED HEAD ASSY	

# 9551 PRO-15MX ENGINE SPARE PARTS LIST

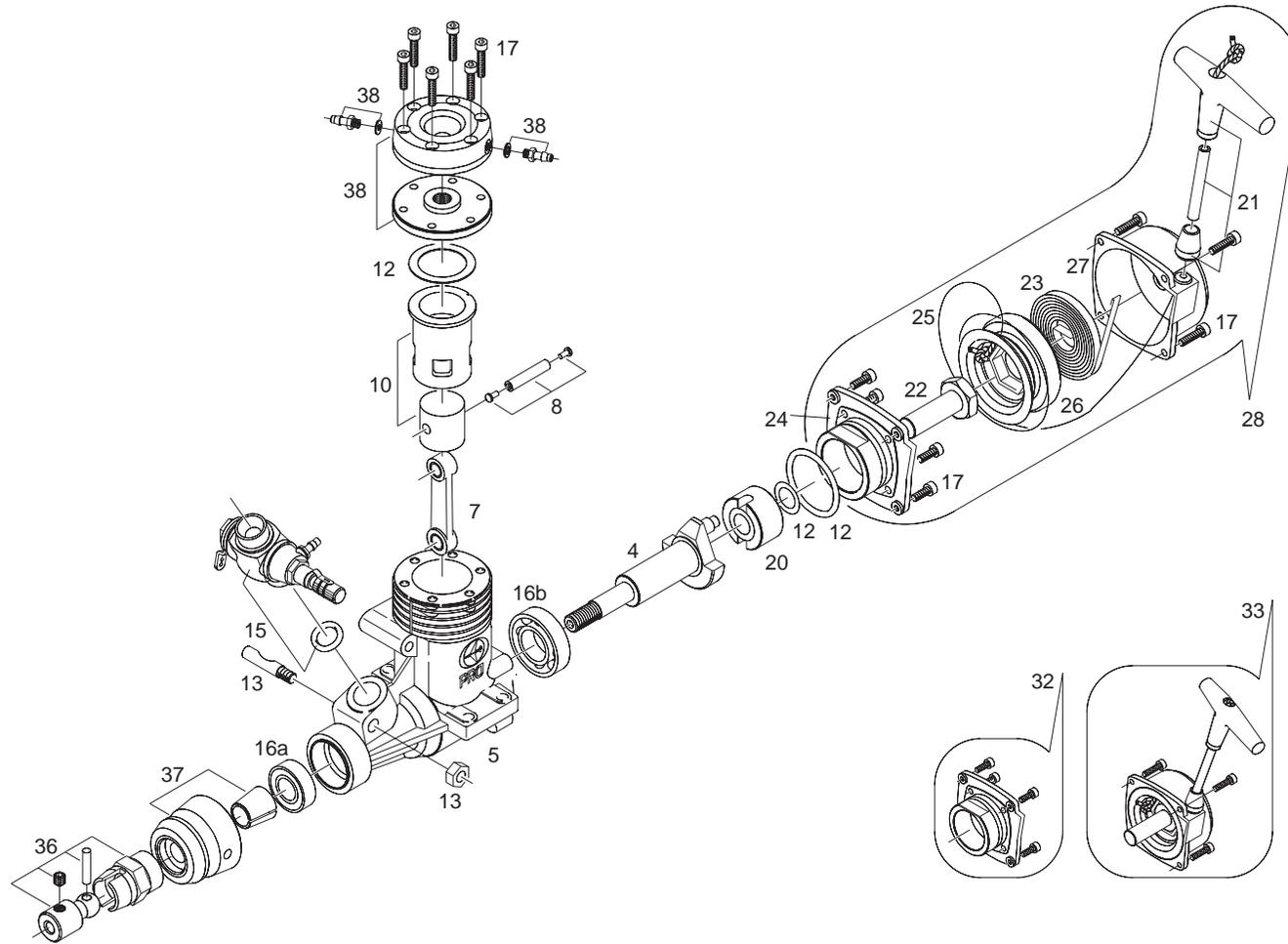
TWO STROKE MARINE ENGINE



NO.	PART#	DESCRIPTION	NOTE
1	*****	PROP NUT	
2	*****	PROP WASHER	
3	*****	DRIVE WASHER SET	
4	AA0437	CRANKSHAFT	
5	AN0200	CRANKCASE	
6	*****	BACKPLATE	
7	AN0433	CONNECTING ROD	
8	AN0148	WRIST PIN ASSEMBLY	
9	*****	CIRCLIP	
10	AN0202	CYLINDER & PISTON	
11	*****	CYLINDER HEAD	
12	PN0013	GASKET SET	
13	PN0011	CARB RETAINING BOLT	
14	9217	MUFFLER ASSEMBLY	
15	9247	CARBURETOR ASSEMBLY	
16a	AMV689Z	BALL BEARING, FRONT	
16b	AMV689	BALL BEARING, REAR	
17	PN0087	SCREW SET	
18	PN1513	MUFFLER BOLT SET	
19	*****	AIR CLEANER SET	
20	AN0315	ONE WAY CLUTCH SET	
21	PN0050	HANDLE SET	
22	AA0313	STARTING AXLE	
23	AA0316	STARTING SPRING	
24	AN0241	BACKPLATE	
25	AA0155	STARTING WHEEL WIRE	
26	AA0312	STARTING WHEEL	
27	AN0314	STARTING WHEEL COVER	
28	PN0016	STARTING SET	
29	*****	CLUTCH BAG	
30	*****	CLUTCH BELL BAG	
31	*****	E RING SET	
32	PN0017	BACKPLATE & SCREW SET	
33	PN0018	STARTING WHEEL COVER SET	
34	*****	FLYWHEEL BAG	
35	*****	EXHAUST HEADER PIPES	
36	PN0079	MARINE UNIVERSAL JOINT	
37	PN0081	FLYWHEEL	
38	PN0091	WATER COOLED HEAD ASSY	

# 9561 PRO-21MX ENGINE SPARE PARTS LIST

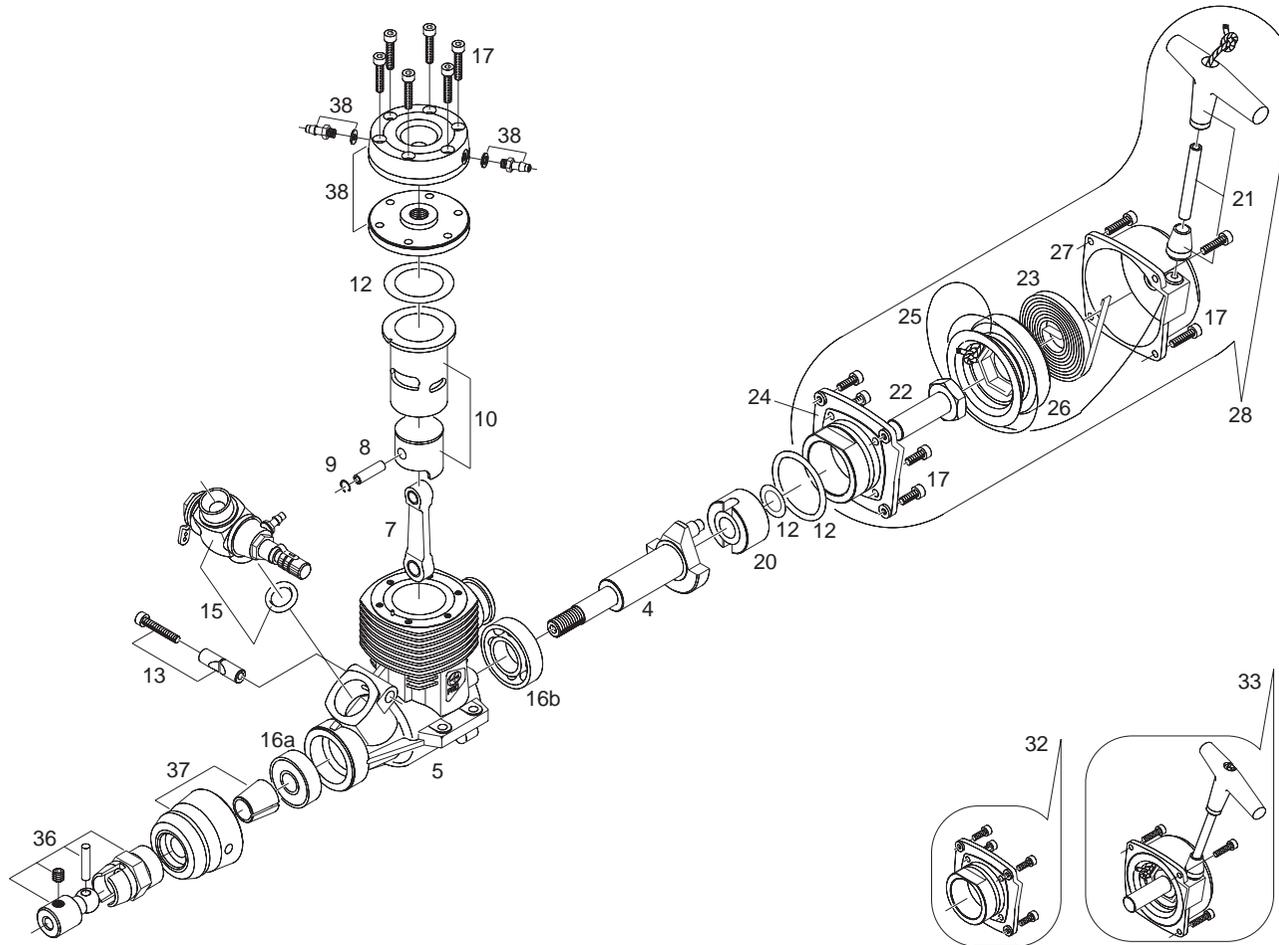
TWO STROKE MARINE ENGINE



NO.	PART#	DESCRIPTION	NOTE
1	*****	PROP NUT	
2	*****	PROP WASHER	
3	*****	DRIVE WASHER SET	
4	AA0442	CRANKSHAFT	
5	AN0399	CRANKCASE	
6	AN0054	BACKPLATE	
7	AN0055	CONNECTING ROD	
8	AN0056	WRIST PIN ASSEMBLY	
9	*****	CIRCLIP	
10	AN0056	CYLINDER & PISTON	
11	*****	CYLINDER HEAD	
12	PN0097	GASKET SET	
13	PN0041	CARB RETAINING BOLT	
14	*****	MUFFLER ASSEMBLY	
15	9250N	CARBURETOR ASSEMBLY	
16a	AMV689Z	BALL BEARING, FRONT	
16b	AMV6901	BALL BEARING, REAR	
17	PN0060	SCREW SET	
18	*****	MUFFLER BOLT SET	
19	*****	AIR CLEANER SET	
20	AN0364	ONE WAY CLUTCH SET	
21	PN0057	HANDLE SET	
22	AA0365	STARTING AXLE	
23	AA0316	STARTING SPRING	
24	AN0375	BACKPLATE	
25	AA0155	STARTING WHEEL WIRE	
26	AA0368	STARTING WHEEL	
27	AN0369	STARTING WHEEL COVER	
28	PN0056	STARTING SET	
29	*****	CLUTCH BAG	
30	*****	CLUTCH BELL BAG	
31	*****	E RING SET	
32	PN0063	BACKPLATE & SCREW SET	
33	PN0059	STARTING WHEEL COVER SET	
34	*****	FLYWHEEL BAG	
35	*****	EXHAUST HEADER PIPES	
36	PN0085	MARINE UNIVERSAL JOINT	
37	PN0083	FLYWHEEL	
38	PN0092	WATER COOLED HEAD ASSY	

# 9566 PRO-21MX-R ENGINE SPARE PARTS LIST

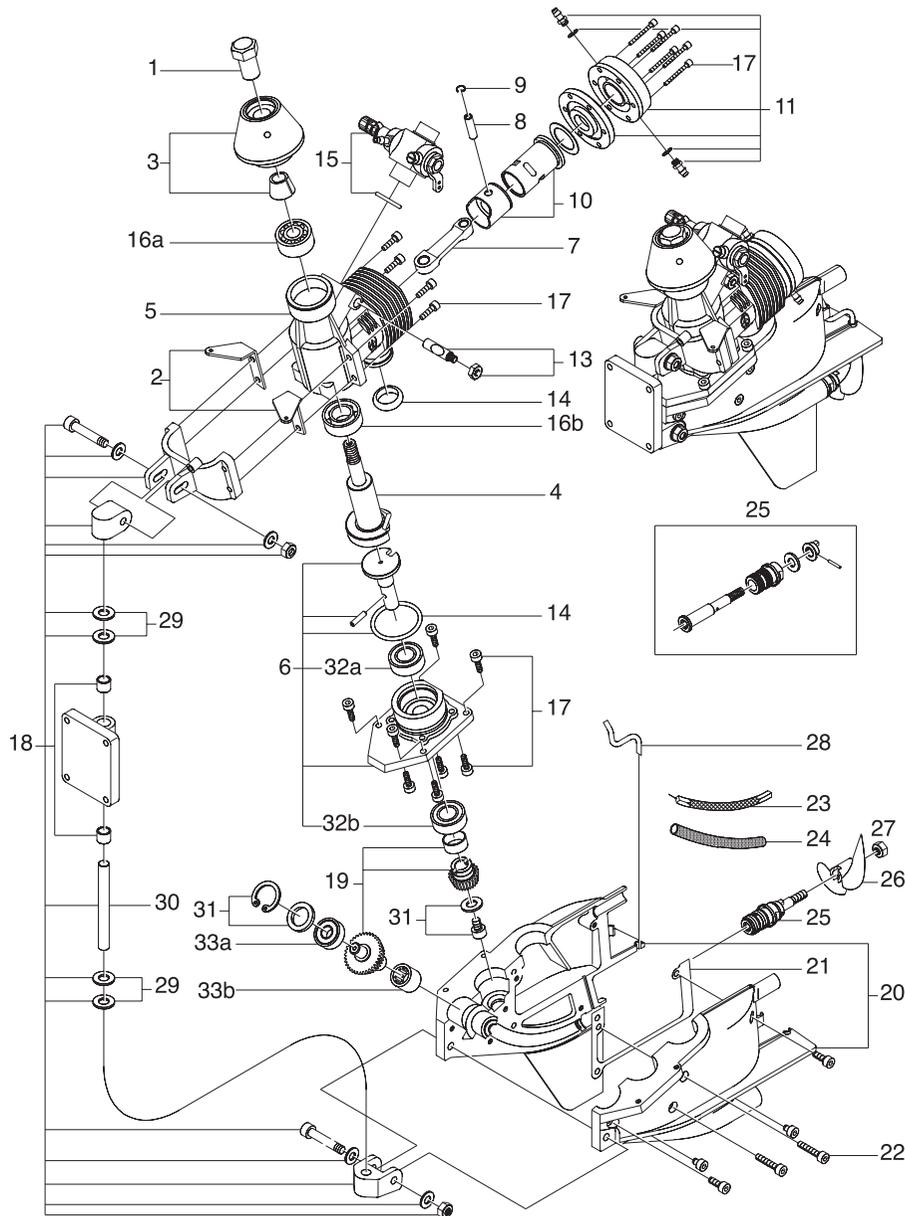
TWO STROKE MARINE ENGINE



NO.	PART#	DESCRIPTION	NOTE
1	*****	PROP NUT	
2	*****	PROP WASHER	
3	*****	DRIVE WASHER SET	
4	AA0263	CRANKSHAFT	
5	AN0318	CRANKCASE	
6	*****	BACKPLATE	
7	AN0349	CONNECTING ROD	
8	AA0350	WRIST PIN ASSEMBLY	
9	AA0351	CIRCLIP	
10	AN0352	CYLINDER & PISTON	
11	*****	CYLINDER HEAD	
12	PN0061	GASKET SET	
13	AN0356	CARB RETAINING BOLT	
14	*****	MUFFLER ASSEMBLY	
15	9251	CARBURETOR ASSEMBLY	
16a	AMV607Z	BALL BEARING, FRONT	
16b	AMV6901X	BALL BEARING, REAR	
17	PN0060	SCREW SET	
18	*****	MUFFLER BOLT SET	
19	*****	AIR CLEANER SET	
20	AN0364	ONE WAY CLUTCH SET	
21	PN0057	HANDLE SET	
22	AA0365	STARTING AXLE	
23	AA0316	STARTING SPRING	
24	AN0366	BACKPLATE	
25	AA0155	STARTING WHEEL WIRE	
26	AA0368	STARTING WHEEL	
27	AN0369	STARTING WHEEL COVER	
28	PN0055	STARTING SET	
29	*****	CLUTCH BAG	
30	*****	CLUTCH BELL BAG	
31	*****	E RING SET	
32	PN0058	BACKPLATE & SCREW SET	
33	PN0064	STARTING WHEEL COVER SET	
34	*****	FLYWHEEL BAG	
35	PN0024	EXHAUST HEADER PIPES	
36	PN0085	MARINE UNIVERSAL JOINT	
37	PN0084	FLYWHEEL	
38	PN0093	WATER COOLED HEAD ASSY	

# 9567/9568 PRO-21M-OB ENGINE SPARE PARTS LIST

OUTBOARD MARINE ENGINE

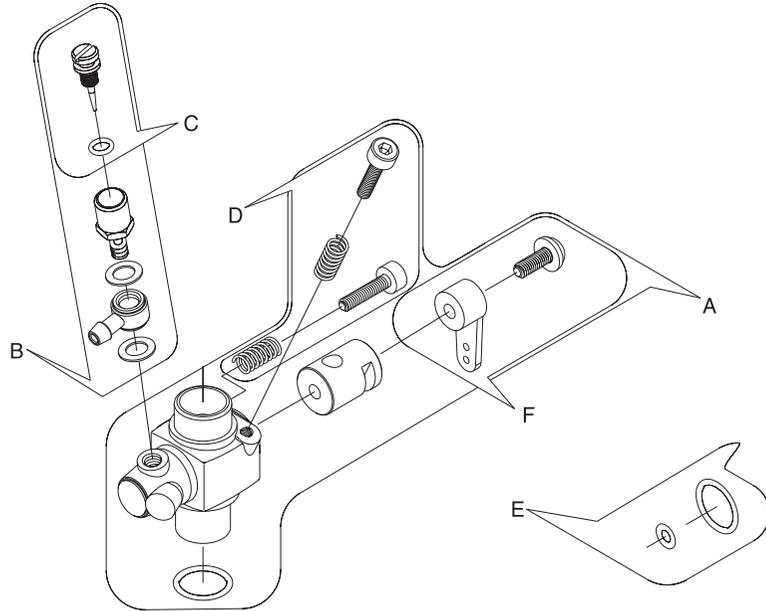


NO.	PART#	DESCRIPTION	NOTE
1	AA0424	FLYWHEEL NUT	
2	PN0098	STEERING ARM SET	
3	PN0099	FLYWHEEL	
4	AA0263	CRANKSHAFT	
5	AN0318	CRANKCASE	
6	PN0100	BACKPLATE ASSEMBLY	
7	AN0349	CONNECTING ROD	
8	AA0350	WRIST PIN ASSEMBLY	
9	AA0351	CIRCLIP	
10	AN0549	CYLINDER & PISTON	
11	PN0093	WATER COLLED HEAD ASSY.	
12	AA0355	HEAD GASKET	
13	AN0356	CARB RETAINING BOLT	
14	PN0101	O RING SET	
15	9249	CARBURETOR ASSY	
16a	AMV607Z	BALL BEARING, d7xD19xW6	
16b	AMV6901X	BALL BEARING, d13xD24xW6	
17	PN0103	ENGINE SCREW SET	
18	PN0104	HINGE PLATE ASSEMBLY	
19a	PN0112	GEAR SET(1.19:1) / 9567	
19b	PN0113	GEAR SET(1.04:1) / 9568	
20	AN0401	LOWER UNIT SET	
21	AA0432	LOWER UNIT GASKET	
22	PN0106	LOWER UNIT SCREW SET	
23	AA0417	FLEX SHAFT	
24	AA0418	FLEX SHAFT GUIDE	
25	PN0107	PROP SHAFT ASSEMBLY	
26	AJ0080	PROPELLER	
27	AMM4Z	PROP NUT	
28	AA0422	WATER INTAKE	
29	PN0108	ADJUSTMENT WASHER	
30	AA0420	HINGE PIN	
31	PN0111	C RING W/WAHSER SET	
32a	AMV607Z	BALL BEARING, d7xD19xW6	
32b	AMV698Z	BALL BEARING, d8xD19xW6	
33a	AMV699Z	BALL BEARING, d9xD20xW6	
33b	AMW0810	NEEDLE BEARING, d8XD12xW10	
34	PN0115	SPRING PIN	

# CARBURETOR SPARE PARTS LIST

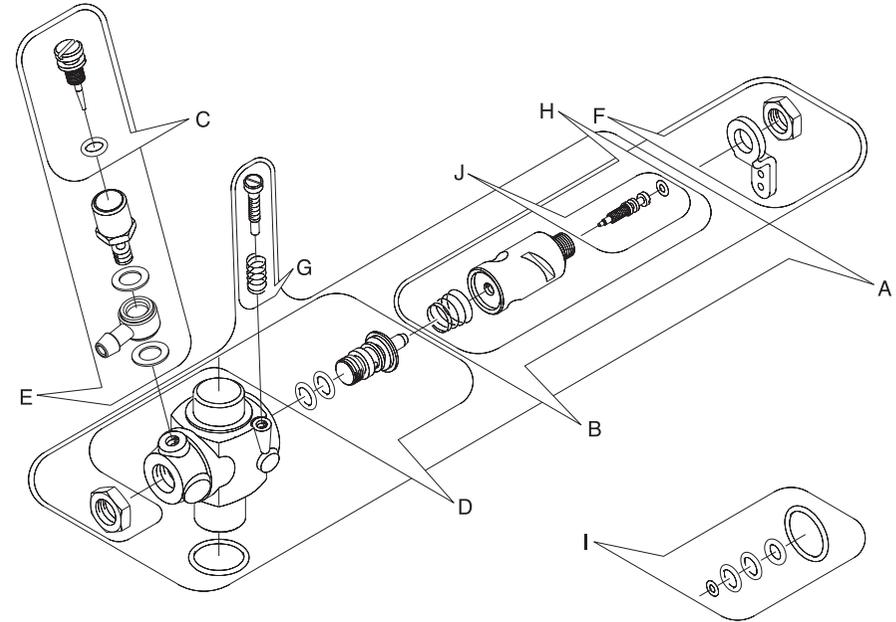
FOR MARINE ENGINE

**9226**  
GP-15MX / 9501



CARBURETOR ITEM NO.		9226	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1158	
B	SPRAY BAR ASSY W/NEEDLE VALVE	PN1037	
C	NEEDLE VALVE ONLY	PN1035	
D	THROTTLE-STOP SCREW SET	PN1148	
E	O RING SET	PN1157	
F	THROTTLE LEVER	PN1065	

**9247**  
PRO-15MX / 9551

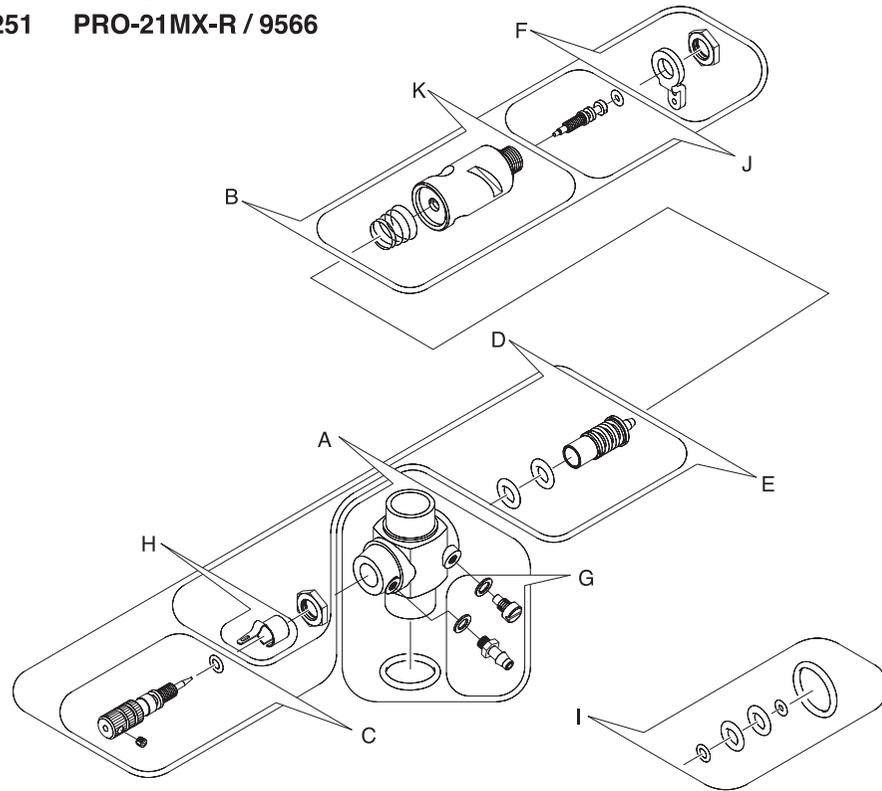


CARBURETOR ITEM NO.		9247	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY W/ROTOR	PN1043	
B	CARB. ROTOR ASSY	PN1044	
C	NEEDLE VALVE ONLY	PN1035	
D	SPRAY BAR ASSEMBLY	PN1036	
E	NEEDLE VALVE ASSY.	PN1037	
F	THROTTLE LEVER	PN1038	
G	THROTTLE-STOP SCREW SET	PN1039	
H	THROTTLE ROTOR SET	PN1045	
I	O RING SET	PN1041	
J	MIXTURE METERING SET	PN1042	

# CARBURETOR SPARE PARTS LIST

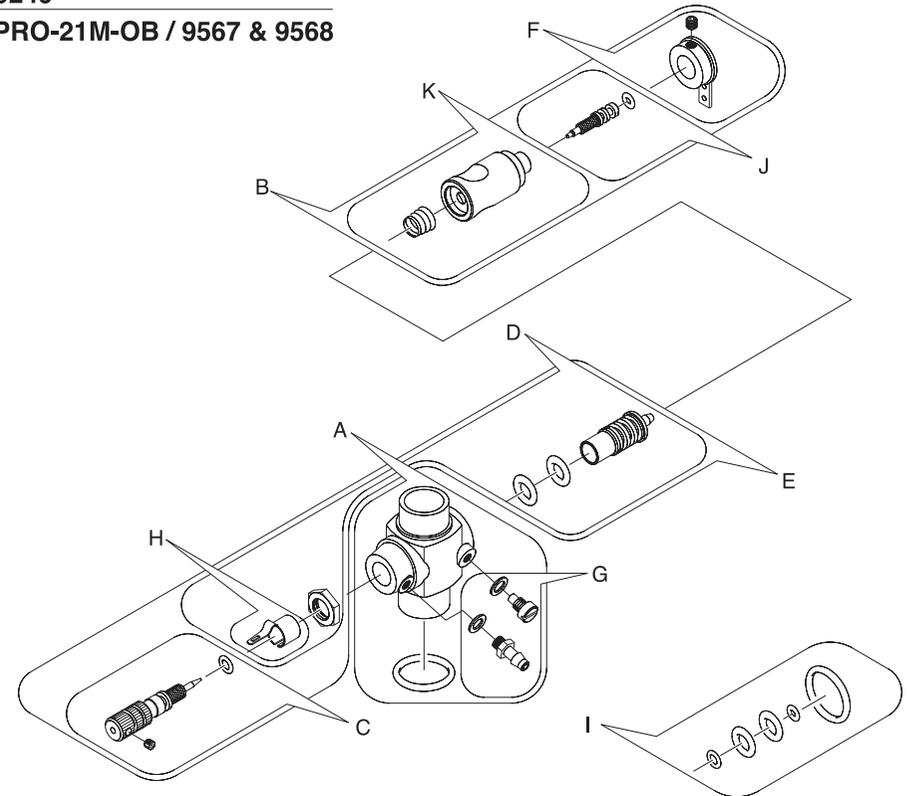
FOR MARINE ENGINE

9250N PRO-21MX / 9561  
9251 PRO-21MX-R / 9566



CARBURETOR ITEM NO		9250N		9251	
NO.	DESCRIPTION	PART#	NOTE	PART#	NOTE
A	CARBURETOR BODY	PN1067		PN1068	
B	CARB. ROTOR ASSY	PN1069		PN1069	
C	NEEDLE VALVE ONLY	PN1018		PN1018	
D	SPRAY BAR ASSEMBLY	PN1019		PN1019	
E	NEEDLE VALVE ASSY.	PN1020		PN1020	
F	THROTTLE LEVER	PN1072		PN1072	
G	BOLT&FUEL INLET	PN1007		PN1007	
H	RATECHET SPRING	AA1025B		AA1025B	
I	O RING SET	PN1022		PN1022	
J	MIXTURE METERING SCREW SET	PN1071		PN1071	
K	THROTTLE ROTOR SET	PN1070		PN1070	

9249  
PRO-21M-OB / 9567 & 9568



CARBURETOR ITEM NO		9249	
NO.	DESCRIPTION	PART#	NOTE
A	CARBURETOR BODY	PN1073	
B	CARB. ROTOR ASSY	PN1129	
C	NEEDLE VALVE ONLY	PN1018	
D	SPRAY BAR ASSEMBLY	PN1019	
E	NEEDLE VALVE ASSY.	PN1020	
F	THROTTLE LEVER	PN1006	
G	BOLT&FUEL INLET	PN1007	
H	RATECHET SPRING	AA1025B	
I	O RING SET	PN1022	
J	MIXTURE METERING SCREW SET	PN1071	
K	THROTTLE ROTOR SET	PN1130	



# P-15

## MICRO TURBOJET ENGINE

No. 9880 P-15 micro turbojet engine only

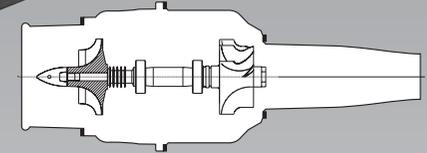
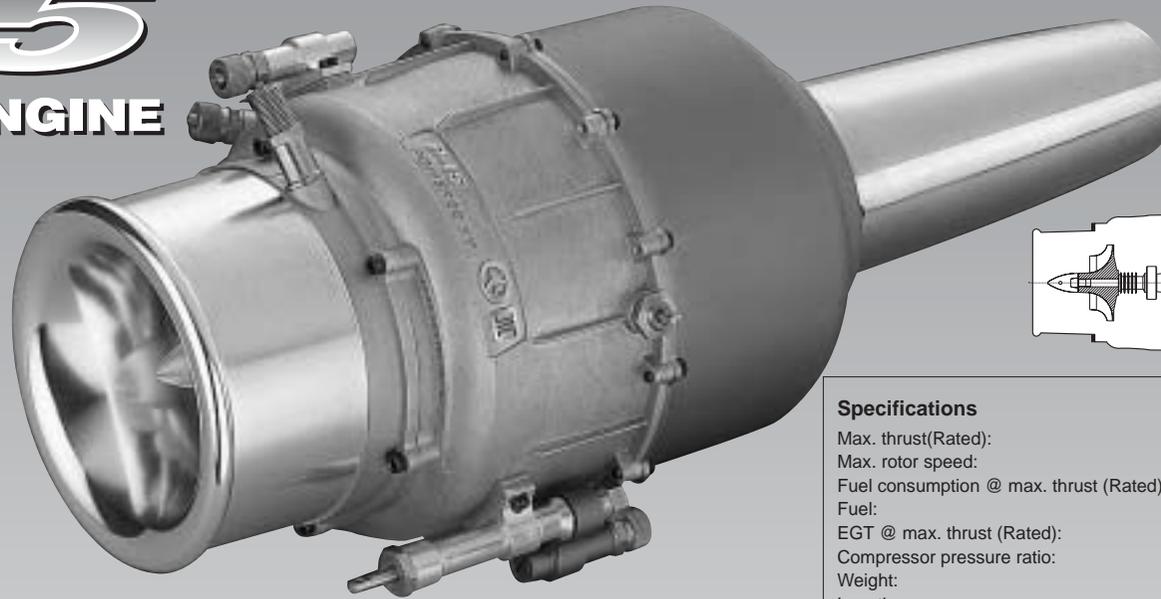
No. 9881 P-15 micro turbojet engine complete set

### Features

- Single stage centrifugal compressor
- Single stage inflow turbine
- 5 simplex type atomizers
- Starting with pressured air
- Air-oil mist lubrication system for bearings
- Through flow annular-type combustor (patent no: 133102)
- 2 high-speed aerospace ball bearings with ceramic balls equipped for rear one

### Potential Applications

- Miniature aerial target drones for portable weapon
- Radio-controlled model jet-aircraft
- Educational applications



### Specifications

Max. thrust(Rated):	12 lbf; 53N
Max. rotor speed:	127,000 rpm
Fuel consumption @ max. thrust (Rated):	170 ml/min; 2.2 g/sec
Fuel:	kerosene and gasoline mixture
EGT @ max. thrust (Rated):	1,202°F; 650°C
Compressor pressure ratio:	2.3:1
Weight:	3.7 lb; 1.68 kg
Length:	12.60 in; 320 mm
Diameter:	4.567 in; 116mm

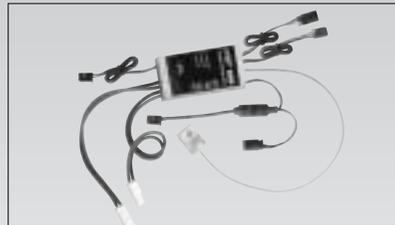
## P-15 Micro Turbojet Engine Accessories



No. 9297  
Fuel pump



No. 2405  
SCU / Starting Control Unit



No. 2406  
EMU / Engine Monitor Unit



No. 2914AC  
9.6V battery set for fuel pump



No. 2916AC  
6V battery set for EMU and receiver



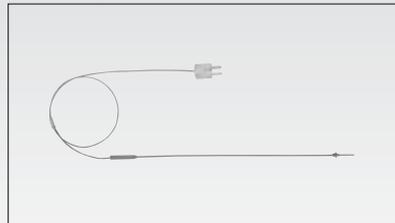
No. 1180 Fuel line 2m



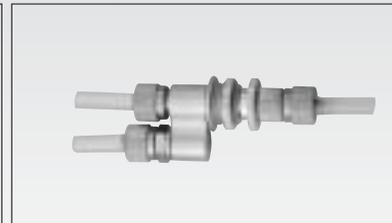
No. 9296 Refueling valve



No. 9299 Check valve



No. 2002 Thermocouple



No. 9298 Pressure taking valve

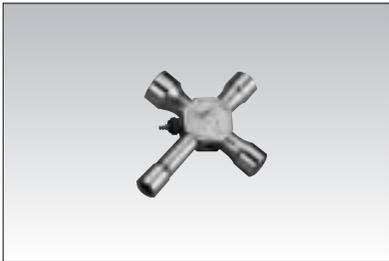


No. 9295 Breathing valve

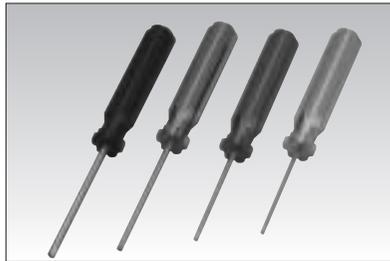


No. 9285 Glow plug

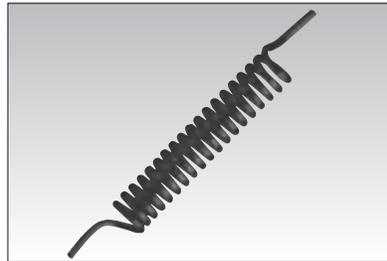
# ENGINE ACCESSORIES



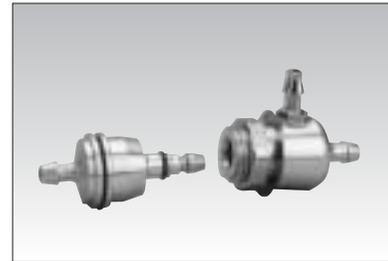
1102 FOUR WAY WRENCH



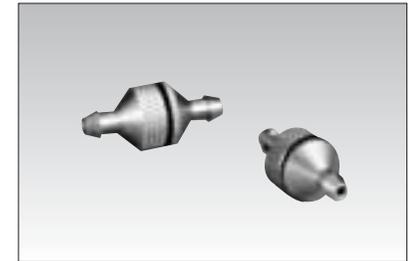
1103 HEX DRIVE SET



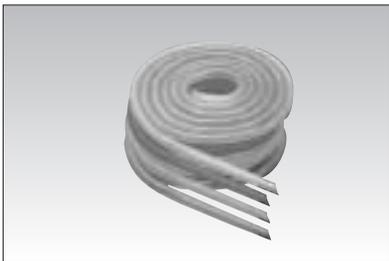
1105 RECOIL FUEL TUBING



1115 PRECISION FUELER VALVE



1164 PRECISION FUEL FILTER



1177 SILCON FUEL LINE 3.5ft  
1179 SILCON FUEL LINE 2ft



1262 CARRYMASTER  
1263 CARRYMASTER W/ACC. 110V  
1264 CARRYMASTER W/ACC. 220V  
1265 CARRYMASTER W/ACC. 240V



1645 HAND CRANK PUMP



1658 12V FUEL PUMP



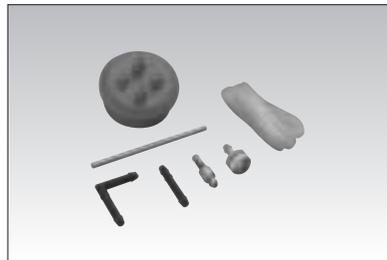
2150 1.8AH GLOW STARTER-L, 110V 2P  
2151 1.8AH GLOW STARTER-L, 230V 2P  
2152 1.8AH GLOW STARTER-L, 230V 3P



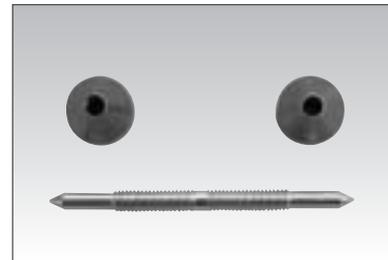
2642 MINI TACHOMETER



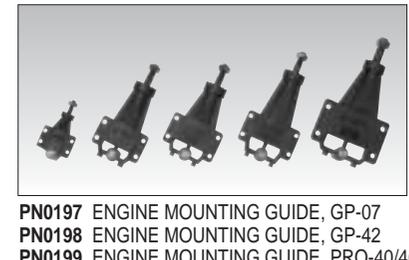
2674 1.2V H.D. 90 STARTER  
2675 1.2V H.D. 180 STARTER



1203 SILICONE CAP



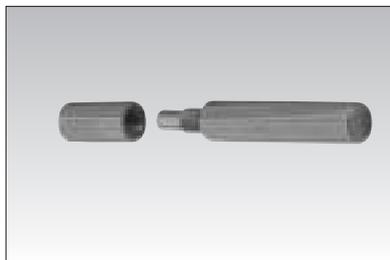
3163 PROP BALANCER



PN0197 ENGINE MOUNTING GUIDE, GP-07  
PN0198 ENGINE MOUNTING GUIDE, GP-42  
PN0199 ENGINE MOUNTING GUIDE, PRO-40/46  
PN0200 ENGINE MOUNTING GUIDE, PRO-25/36  
PN0201 ENGINE MOUNTING GUIDE, PRO-61



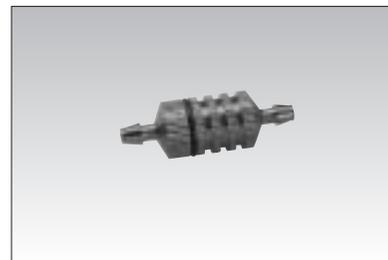
9270 MUFFLER EXTENSION FOR .10-.15  
9271 MUFFLER EXTENSION FOR .25  
9272 MUFFLER EXTENSION FOR .40  
PN1518 MUFFLER EXTENSION FOR .61



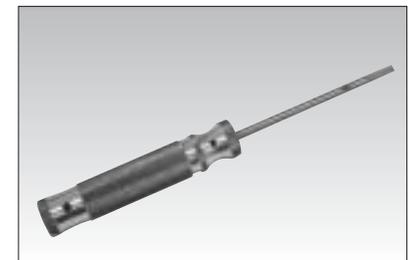
1166P PISTON LOCK TOOL



1116 5-WAY WRENCH

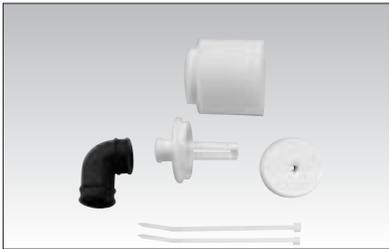


1165 FUEL FILTER



1132 WRENCH 2.0mm HEX BALL  
(Carb Adjusting)

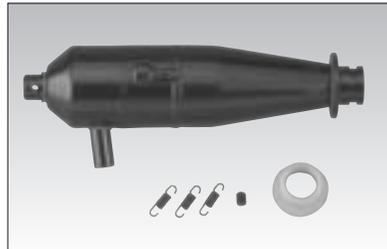
# ENGINE ACCESSORIES



**9279B/G/PW** AIR FILTER  
.21/BLACK, GREEN, PINK, WHITE  
**9286W** AIR FILTER 12/15



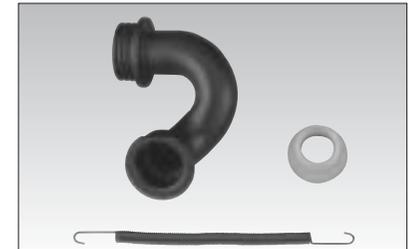
**PD0418** 1/8 TUNED PIPE, C1A



**PD1134** 1/10 TUNED PIPE, C1A



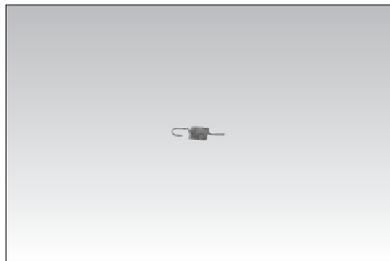
**PD1135** 1/10 SIDE EXHAUST MANIFOLD, C1A



**PD1136** 1/10 REAR EXHAUST MANIFOLD, C1A



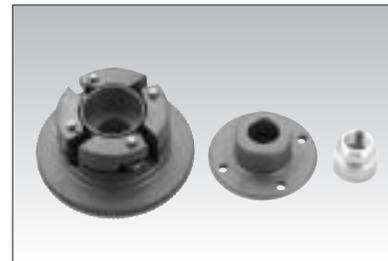
**PD0931** 1/10 EXHAUST COUPLER



**PD0932** EXHAUST MANIFOLD SPRING



**PD0996** 1/8 3-SHOE CLUTCH, TYPE A



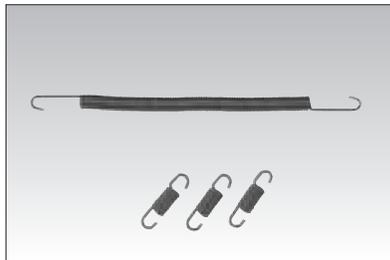
**PD0998** 1/8 4-SHOE CLUTCH, TYPE A



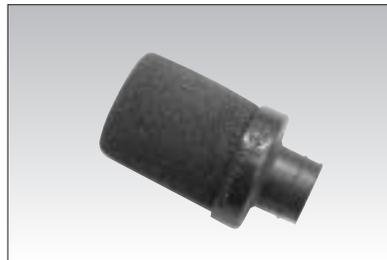
**PD1213** 1/10 3-SHOE CLUTCH, TYPE A  
**PD1214** 1/10 3-SHOE CLUTCH, TYPE A LONG



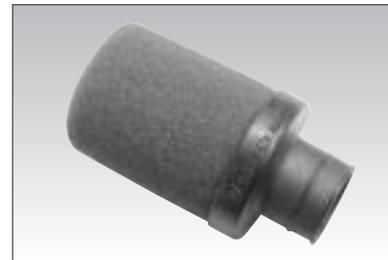
**PD1216** 1/10 4-SHOE CLUTCH, TYPE A  
**PD1217** 1/10 4-SHOE CLUTCH, TYPE A LONG



**PD1219** MANI&PIPE CPL SPR CI



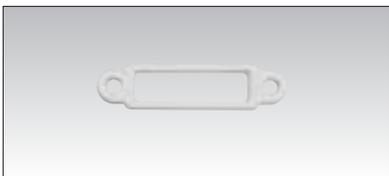
**PD1212** AIR FILTER 12/15 ON ROAD



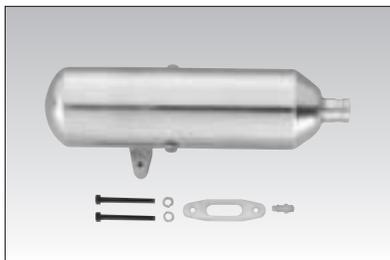
**PD1225** AIR FILTER 21 ON-ROAD



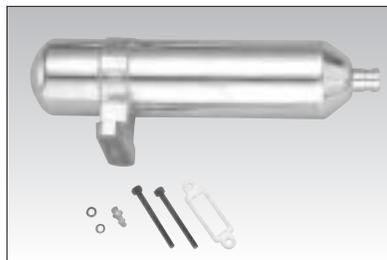
**PN0024** 1/8 MANIFOLD, C2A



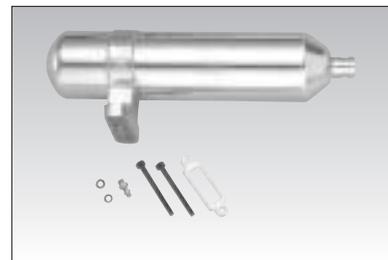
**PN1514** MUFFLER GASKET PRO-36/GP-42  
**PN1515** MUFFLER GASKET PRO-40/46  
**PN1516** MUFFLER GASKET PRO/GP-10/12/15  
**PN1517** MUFFLER GASKET SET



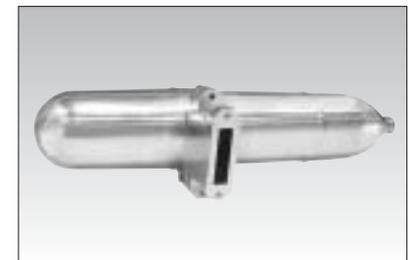
**PV0102** MUFFLER (.30-.39)



**PV0109** MUFFLER (.46~.50)



**PV0205** MUFFLER (.70)



**PV0352** MUFFLER (.90)

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### Improved Carburetor; Swept Back For Safety

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GP-07	No.9007	PRO-25	No.9120
GP-10	No.9010	PRO-36	No.9130
GP-15	No.9011	PRO-40	No.9140
GP-25	No.9020	PRO-46	No.9141
GP-42	No.9041	PRO-61	No.9160
GP-61	No.9060	PRO-90	No.9190
		PRO-120	No.9195
		PRO-120-RP	No.9196



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