**GENERAL**

Model ..... Piper
Type ..... Piper PA-28RT-201 Arrow IV
Engine rating ..... 200 HP
Engine model & type ..... Lycoming, IO-360-C1C6
Propeller ..... McCauley B3D36C424/74SA
Approx. Fuel burn /hr ..... 11 USG/HR
Powersettings % 75/65/55 ..... APPROX. 12,4/ 10,8/ 9,1 USG/HR

BEM ..... 859 KG
BEM-ARM ..... 87,19 IN
BEM-Moment ..... 164.789 Lbs/IN

**ADVISORY PERFORMANCE (ISA, MSL, Max load)**

Min RWY T/O (ISA, MSL, PAVED, LEVEL, DRY, MTOM, Flap 25°) GROUND RUN ..... 320 M.
OVER 50' ..... 488 M.
Min RWY LDG (ISA, MSL, PAVED, LEVEL, DRY, MTOM, Flap 40°) GROUND RUN ..... 190 M.
OVER 50' ..... 463 M.

Endurance (No reserve) ..... 7:25
Max range (No reserve) ..... 900 NM

**LIMITATIONS**

MTOM (Normal / Utility) ..... 1250 KG.
MLM (Normal / Utility) ..... 1250 KG.
MAX weight in baggage compartment ..... 90 KG.
Aft CG limit ..... 93 IN
FWD CG limit ..... 90 IN

Oil capacity ..... 8 U.S. Quarts
Min. Operational oil quantity ..... 6 U.S. Quarts
Fuel capacity (Usable) ..... 72 USG

Service ceiling ..... 15.000 ft.
Absolute ceiling ..... 17.000 ft.

Max Demonstrated XWC ..... 17 Kts
Max tailwind (not stated in POH) ..... 0 Kts

**SPEEDS (IAS)**

$V_r$ ..... Flap 25 (60 kts) 70 Kts
$V_{So}$ (Full Flaps & GEAR DOWN) ..... 56 Kts
$V_{S1}$ (FLAPS UP & GEAR UP) ..... 62 Kts
$V_x$ ..... GEAR Down (70 Kts) 77 Kts
$V_y$ ..... GEAR Down (76 Kts) 87 Kts
$V_{TH}$ (flaps 40) ..... 74 Kts
Vglide ..... 79 Kts
Va 2750 Lbs ..... 121 Kts
Vno ..... 149 Kts
Vne ..... 190 Kts
Vfe ..... 108 Kts
Vcc (cruise climb) ..... 104 Kts
Vcruise ..... 126 Kts
$V_{LE}$ ..... 130 Kts
V (Gear Extension) ..... 130 Kts
V (Gear Retraction) ..... 109 Kts
Maximum window open speed ..... 129 Kts

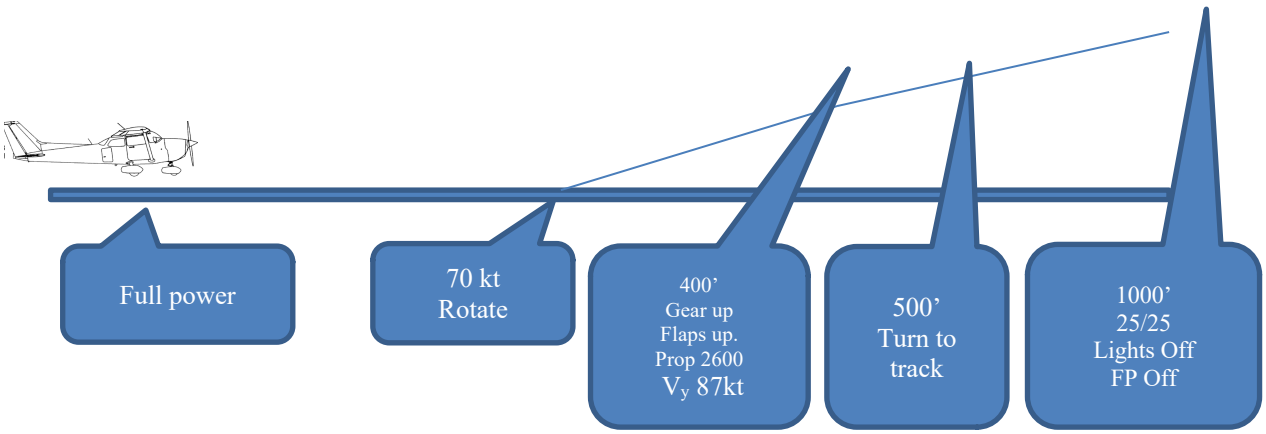
**CERTIFICATIONS**

Category: ..... Normal
IFR ..... YES
VFR ..... YES
NIGHT VFR ..... YES
ICING CONDITIONS ..... NO
OPS where oxygen supply is necessary ..... NO
Noise Certificate ..... YES
Noise Certification STD ..... ICAO Annex 16 Vol.1 Chapter 6

**PAX Safety Briefing**

| | |
|---|---|
| Seat & Seatbelts | OPERATION |
| Door / Emergency Exit(s) | LOCATION & OPERATION |
| Fire Extinguisher | LOCATION & OPERATION |
| Initial Emergency Checklist | LOCATION & USE |
| Baggage | STOWAGE |
| First Aid Kit | LOCATION & CONTENT |
| Smoking | NO SMOKING |
| Emergency procedure | REVIEW PROCEDURE |
| PAX in front seat | INFORM |

## 1.1 Normal Takeoff



## 1.2 Short field

Flaps 25° (second notch)
Accelerate to 50 to 60 KIAS depending on aircraft weight.
Control Wheel back pressure to rotate to climb attitude
After breaking ground, accelerate to 55 to 65 KIAS depending on aircraft weight.
Gear (override engaged on aircraft equipped with backup gear extender) UP
Accelerate to best flaps up angle of climb speed - 77 KIAS, slowly retract the flaps and climb past the obstacle.
Accelerate to best flaps up rate of climb speed - 87 KIAS.

## 1.3 Soft field

SOFT FIELD
Flaps 25° (second notch)
Accelerate to 50 to 60 KIAS depending on aircraft weight.
Control Wheel back pressure to rotate to climb attitude
After breaking ground, accelerate to 55 to 65 KIAS depending on aircraft weight.
Gear (override engaged on aircraft equipped with backup gear extender) UP
Accelerate to best flaps up rate of climb speed - 87 KIAS.
Flaps retract slowly

## 1.4 Performance

# Take-off performance

| Altitude | Flap | TOR | TOD |
|---|---|---|---|
| 0 | 0 | 518 m | 685 m |
| 2000 | 0 | 548 m | 731 m |
| 4000 | 0 | 594 m | 807 m |
| 0 | 25 | 320 m | 488 m |
| 2000 | 25 | 350 m | 533 m |
| 4000 | 25 | 396 m | 580 m |

Conditions: MTOW, ISA, no wind, dry paved runway

# Climb performance

| Altitude | ROC | Time | Distance |
|---|---|---|---|
| 0 | 820 fpm | - | - |
| 2000 | 740 fpm | 2 min | 4 NM |
| 4000 | 650 fpm | 5 min | 8 NM |
| 6000 | 560 fpm | 9 min | 15 NM |
| 8000 | 470 fpm | 12 min | 20 NM |
| 10000 | 380 fpm | 17 min | 28 NM |

# Cruise & PWR settings

STEP 1 Set RPM and PWR to 65%
STEP 2 Prelean, push LF and set LOP
STEP 3 Set PWR to 65% again

| Altitude | Rpm rec. | PWR set to |
|---|---|---|
| Gnd – 4000 | 2300 | 65% |
| 4000-6000 ft | 2400 | 65% |
| 6000-8000 ft | 2500 | 65% |
| 8000 – | 2600 | 65% |

# Landing performance

| Altitude | ACW | Ldg. Roll | Ldg. Dist |
|---|---|---|---|
| 0 | 1248 kg (MTOW) | 190 m | 463 m |
| 0 | 1062 kg* | 160 m | 433 m |

Conditions: ISA, no wind, dry paved runway, 40 degree flaps, Vth = 74

## 1.5 Leaning procedure

# Leaning LOP/ROP

**1. Prelean.**
Before entering LF mode, lean until EGT rise on all cyl
**2. Select mode**
Tap LF to start LF mode.
(Screen will show either ROP or LOP.
To toggle modes, press and hold Step and
LF together until display changes)
**3. Start leaning**
Start leaning slow - when 15 F change occurs the LF mode will activate
**4. Lean of peak (normal operation)**
When the last EGT peaks RICHEST will flash and the columns will turn upside down. Indicating you are now on the lean side on all cylinders.
Continue leaning to desired EGT or Fuel Flow (32 l for 65 %)
**5. Rich of peak (only when demand for high power)**
When first EGT peaks, LEANEST will
flash and flash the peaked EGT column. (If you press LF the peak EGT recorded will be displayed along with the FF spread)
Now enrichen to set 100F - 150 F ROP (of leanest cylinder) ensuring CHTs are below 380° F

## 1.6 Fuel

# Fuel vs. payload (empty 859 kg)

| **FUEL LEVEL**<br>Dipstick markings = 10 L<br>(Fuel hammer) | **Volume/ Endurance** per tank<br>(useful fuel no reserve 40 l/h) | **Payload** (pilot, pax and bagg.)<br>with equal tanks |
|---|---|---|
| 0 = Less then | 35 liter / 00:52 9,2 eller 18,4 Gal | 352 kg |
| 1 | 45 liter / 01:07 11,9 eller 23,8 Gal | 338 kg |
| 2 | 55 liter / 01:22 14,5 eller 29,1 Gal | 323 kg |
| 3 | 65 liter / 1:37 17,2 eller 34,3 Gal | 309 kg |
| 4 | 75 liter / 1:52 19,8 eller 39,6 Gal | 295 kg |
| 5 | 85 liter / 2:07 22,5 eller 44,9 Gal | 280 kg |
| 6 - TAP | 95 liter / 2:22 25,1 eller 50,2 Gal | 266 kg |
| 7 | 105 liter / 2:37 27,7 eller 55,5 Gal | 252 kg |
| 8 | 115 liter / 2:52 30,4 eller 60,7 Gal | 237 kg |
| 9 | 125 liter / 3:07 33,0 eller 66,0 Gal | 223 kg |
| 10 | 135 liter / 3:22 35,7 eller 71,3 Gal | 208 kg |

## 1.7 Power settings



**LYCOMING MODEL IO-360-C SERIES, 200 HP ENGINE**
**AS INSTALLED IN PA-28RT-201**

| Press. Alt. Feet | Std. Alt. Temp. °C | 110 HP - 55% POWER RPM AND MAN. PRESS. 2200 | 2500 | 130 HP - 65% POWER RPM AND MAN. PRESS. 2200 | 2500 | 150 HP - 75% POWER RPM AND MAN. PRESS. 2500 | Press. Alt. Feet |
|---|---|---|---|---|---|---|---|
| S.L. | 15 | 25.0 | 22.2 | 27.1 | 23.5 | 26.0 | S.L. |
| 1000 | 13 | 24.6 | 21.8 | 26.8 | 23.3 | 25.8 | 1000 |
| 2000 | 11 | 24.1 | 21.5 | 26.4 | 23.1 | 25.7 | 2000 |
| 3000 | 9 | 23.7 | 21.2 | 26.1 | 23.0 | 25.6 | 3000 |
| 4000 | 7 | 23.3 | 20.9 | 25.7 | 22.9 | 25.5 | 4000 |
| 5000 | 5 | 22.8 | 20.5 | F.T. | 22.8 | F.T. | 5000 |
| 6000 | 3 | 22.4 | 20.2 | | 22.7 | | 6000 |
| 7000 | 1 | 21.9 | 19.8 | | 22.5 | | 7000 |
| 8000 | -1 | 21.5 | 19.5 | | F.T. | | 8000 |
| 9000 | -3 | 21.0 | 19.2 | | | | 9000 |
| 10000 | -5 | F.T. | 18.8 | | | | 10000 |
| 11000 | -7 | — | 18.5 | | | | 11000 |
| 12000 | -9 | — | 18.2 | | | | 12000 |
| 13000 | -11 | — | 17.8 | | | | 13000 |
| 14000 | -13 | — | 17.5 | | | | 14000 |

To maintain constant power, correct manifold pressure approximately 0.16" Hg for each 10° F variation in inlet air temperature from standard altitude temperature. Add manifold pressure for air temperatures above standard; subtract for temperatures below standard.

Full throttle manifold pressure values may not be obtainable when atmospheric conditions are non-standard.

POWER SETTING TABLE
Figure 5-21

## 1.8 Autopilot

ROLL mode = master ON. Roll knop controls roll
HDG = Heading mode (see following)

**Heading modes** (set at HDG by default):
HDG = Heading bug (orange) on HSI (no wind corr.) or for use with GNSS setting on ADI
Modes with automatic wind correction +/- 15 degrees:
OMNI = VOR or GPS enroute
LOC = Localizer or GPS approach (normal) + GS
LOC BC = Localizer outbound (reverse) – no GS
Set Yellow arrow on HSI for desired track

**Pitch modes** requires ROLL or HDG engaged
PITCH mode = set pitch (not VS) on pitch wheel
ALT = Maintain present altitude (no altitude capture)
ALT + LOC = GS capture. Allow 20 sec straight and level flight with LOC and ALT engaged before capture