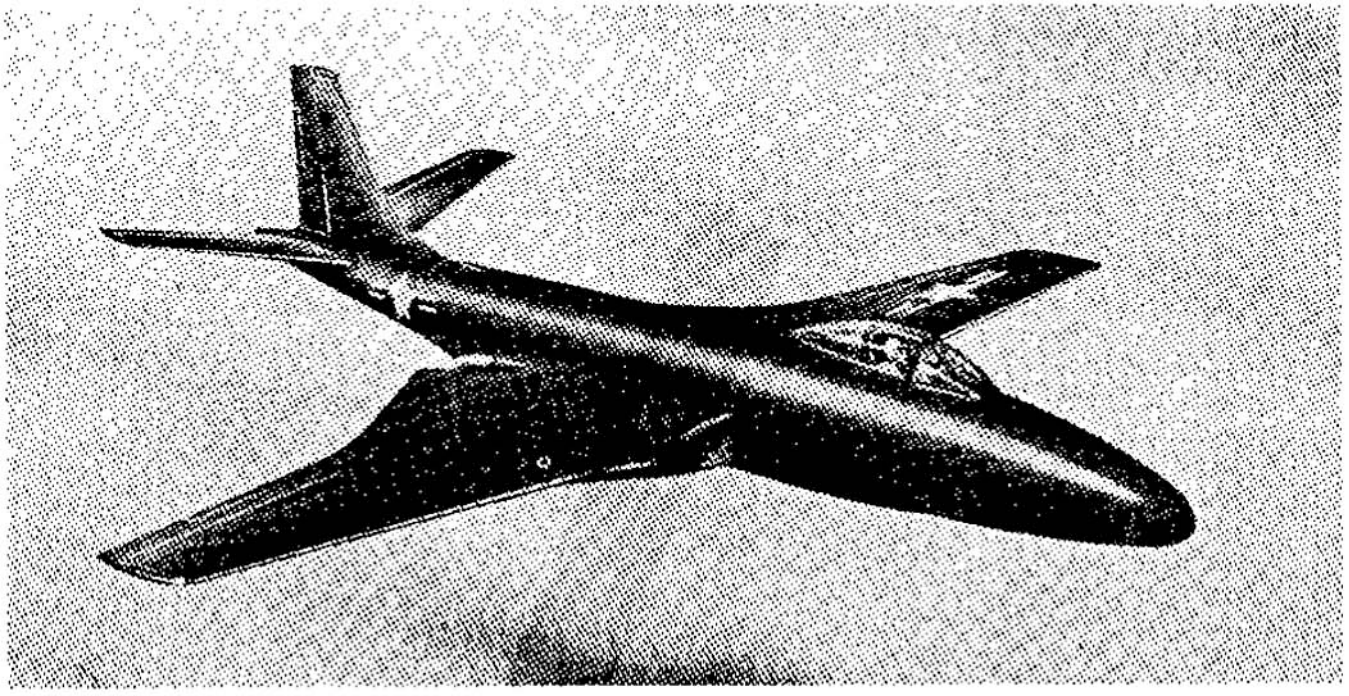
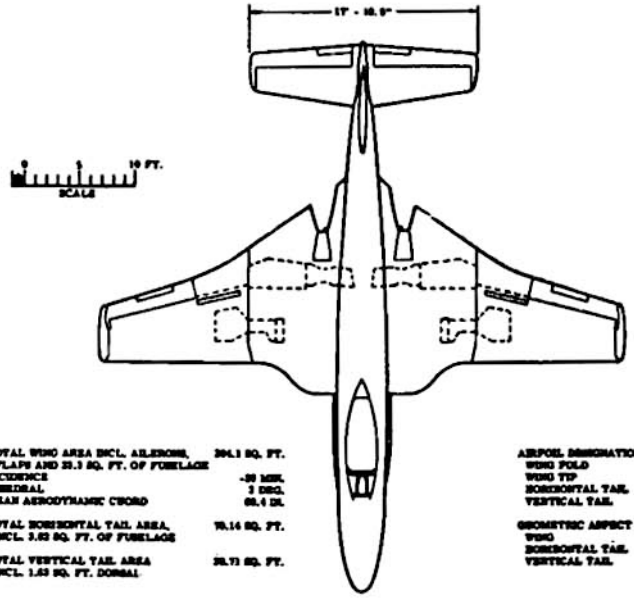


STANDARD AIRCRAFT CHARACTERISTICS

F-2C BANSHEE

MCDONNELL



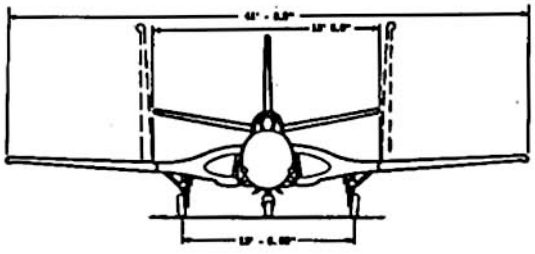
TOTAL WING AREA INCL. AILERONS, FLAPS AND 23.3 SQ. FT. OF FUSELAGE	294.1 SQ. FT.
INCIDENCE	-20 MIN.
DIHEDRAL	2 DEG.
MEAN AERODYNAMIC CHORD	68.4 IN.
TOTAL HORIZONTAL TAIL AREA, INCL. 3.82 SQ. FT. OF FUSELAGE	70.14 SQ. FT.
TOTAL VERTICAL TAIL AREA INCL. 1.63 SQ. FT. DORSAL	38.73 SQ. FT.

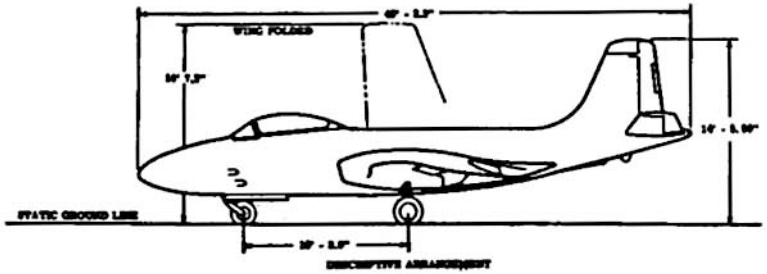
AIRFOIL DESIGNATION

WING ROOT	NACA-65A-213
WING TIP	NACA-65A-209
HORIZONTAL TAIL	NACA-65-009
VERTICAL TAIL	NACA-65-009

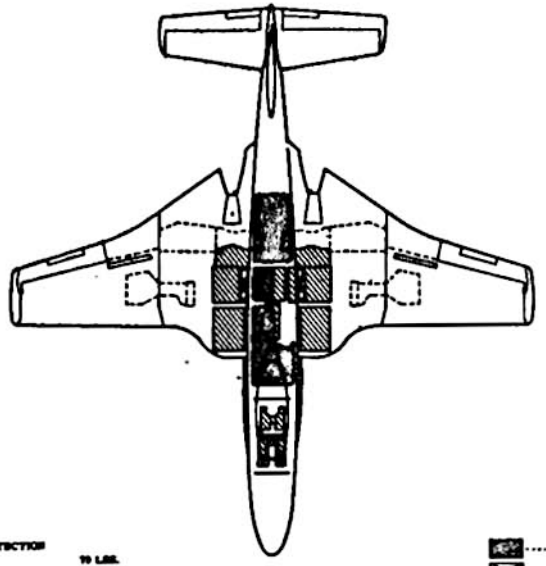
GEOMETRIC ASPECT RATIO

WING	5.88
HORIZONTAL TAIL	4.5
VERTICAL TAIL	1.1





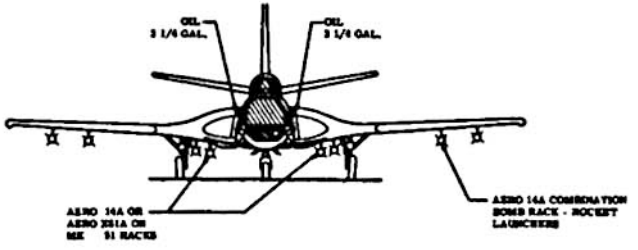
DESCRIPTIVE ARRANGEMENT

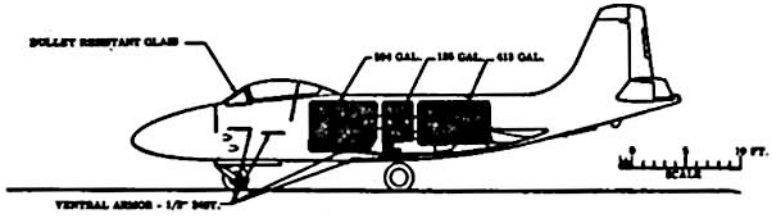


PROTECTION

PILOT FORWARD	70 LBS.
PILOT AFT	65
VENTRAL	630 LBS.
SELF-SEALING FUEL CELLS	640 LBS.

FUEL TANK
OIL TANK
ARMOR





FUSELAGE ARRANGEMENT

POWER PLANT

NO. & MODEL.....(2) J34-WE-34
MFR.....Westinghouse
TYPE.....11 Stg. Axial Compr.
2 Stg. Turbine
ENG. LENGTH.....120"
ENG. DIAMETER.....50"

RATINGS

	Lbs. @	Rpm @	Alt.
T. O.	3,250	12,500	S.S.L.
MIL.	3,250	12,500	S.S.L.
NORM.	2,650	11,800	S.S.L.

SPEC. NO. WAGT-24C4D-2C

ORDNANCE

GUNS

No.	Size	Location	Rds.
4	20mm(Mk.16)	Nose	600

FIRE CONTROL

A.F.C.S.....Mk. 6 Mod. 0

BOMBS AND ROCKETS

Type	Size	Location	No.
Bombs	100#	Wings	8
Bombs	250#	Wings	8
Bombs	500#	Wings	2
HVAR	5"	Wings	8
HPAG	5"	Wings	8

2 - Mk. 51-11 Bomb Racks
8 - Aero 14A Combination Bomb Rack and Rocket Launchers

Any combination of above not to exceed 3,200 pounds.

MISSION AND DESCRIPTION

The F2H-3 airplane is a single place all weather fighter designed for either land or carrier based operations.

The airframe is of stressed metal skin construction with all surfaces being of the full cantilever type.

Equipment includes an APQ-41 radar, automatic pilot, ejection seat, and cockpit pressurization. The primary control system incorporates power actuation with artificial feel forces for the aileron and elevator. Split type trailing edge flaps and wing mounted speed brakes are provided. The F2H-3 is designed for carrier operations without tip tanks. Its internal fuel capacity has been increased by 225 gallons over that of the F2H-2.

Mock-up date — October 1950
First flight (prototype) — December 1951
Service use to start — August 1952

DIMENSIONS

WING AREA.....294 sq. ft.
SPAN.....41' - 9"
LENGTH.....48' - 2"
HEIGHT.....14' - 6"
TREAD.....13' - 7"
M.A.C.....7' - 4"

WEIGHTS

Loadings	Lbs.	L.F.
EMPTY	13,183	
BASIC	13,780	
DESIGN	18,600	7.5
COMBAT	18,367	7.6
MAX.T.O.(Field)	25,214*	5.5
(Cat.)	25,214	
MAX.LAND.(Field)	19,200	
(Arrest.)	16,700	

All weights are calculated.

* Maximum Anticipated Loading

FUEL AND OIL

Gals.	No. Tanks	Location
1,102	3	Fuse.,S.S.
340	2	Wing, Drop

FUEL GRADE.....115/145
FUEL SPEC....MIL-F-5572

OIL

CAPACITY (Gals.).....6.5
GRADE.....1010
SPEC.....MIL-O-6081

ELECTRONICS

VHF COMMAND....AN/ARC-1 or -1A
(Installation Provisions Only)
UHF COMMAND.....AN/ARC-27
HOMING.....AN/ARR-2A
UHF D.F.....AN/ARA-25
ALTIMETER.....AN/APN-1
ADF.....AN/ARN-6
HOMING.....AN/ARN-21
(P.S.I., Repl. for AN/ARR-2A and AN/ARN-6)
SEARCH RADAR.....AN/APQ-41
(250 aircraft only)
(See NOTES)

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) FIGHTER Full Internal Fuel	(3) FIGHTER 2 - 170 Gallon Tanks	(5) GRD. SUPPORT 2-170 Gal. Tanks 4-5" HVAR Rock. 4-250 lb. Bombs		
TAKE-OFF WEIGHT	lb.	21,013	23,507	25,214		
Fuel (Fixed/Drop)	lb.	6,612/-	6,612/2,040	6,612/2,040		
Payload (Ammunition, Rockets, Bombs)	lb.	337	337	337/1,580		
Wing loading	lb./sq.ft.	71.5	80.0	85.8		
Stall speed - power-off	kn.	115	122	127		
Take-off run at S.L. - calm	ft.	2,490	3,210	3,800		
Take-off run at S.L. 25 kn. wind	ft.	1,560	2,100	2,470		
Take-off to clear 50 ft. - calm	ft.	—	—	—		
Max. speed/altitude (A)	kn./ft.	470/S.L.	454/S.L.	381/30,000		
Rate of climb at S.L.	fpm	(B) 5,150	(A) 3,200	(A) 2,360		
Time: S.L. to 20,000 ft.	min.	(B) 4.6	(A) 7.9	(A) 12.6		
Time: S.L. to 30,000 ft.	min.	(B) 8.2	(A) 14.4	(A) 39.0		
Service ceiling (100 fpm)	ft.	(B) 47,000	(A) 41,300	(A) 30,500		
Combat range	n.mi.	1,015	1,490	955		
Average cruising speed	kn.	400	385	390		
Cruising altitude(s)	ft.	40,000	40,000	30,000/35,000		
Combat radius	n.mi.	415	625	330		
Average cruising speed	kn.	430	435	400		
COMBAT LOADING CONDITION		(2) CLEAN	(4) CLEAN			
COMBAT WEIGHT	lb.	18,367	21,013			
Engine power		Military	Military			
Fuel	lb.	3,966	6,612			
Combat speed/combat altitude	kn./ft.	455/35,000	450/35,000			
Rate of climb/combat altitude	fpm/ft.	2,300/35,000	1,800/35,000			
Combat ceiling (500 fpm)	ft.	46,600	45,000			
Rate of climb at S.L.	fpm	6,000	5,150			
Max. speed at S.L.	kn.	503	500			
Max. speed/altitude	kn./ft.	503/S.L.	500/S.L.			
LANDING WEIGHT	lb.	15,672	15,797			
Fuel	lb.	1,271	1,382			
Stall speed - power-off	kn.	99	99			
Stall speed - with approach power	kn.	94	94			

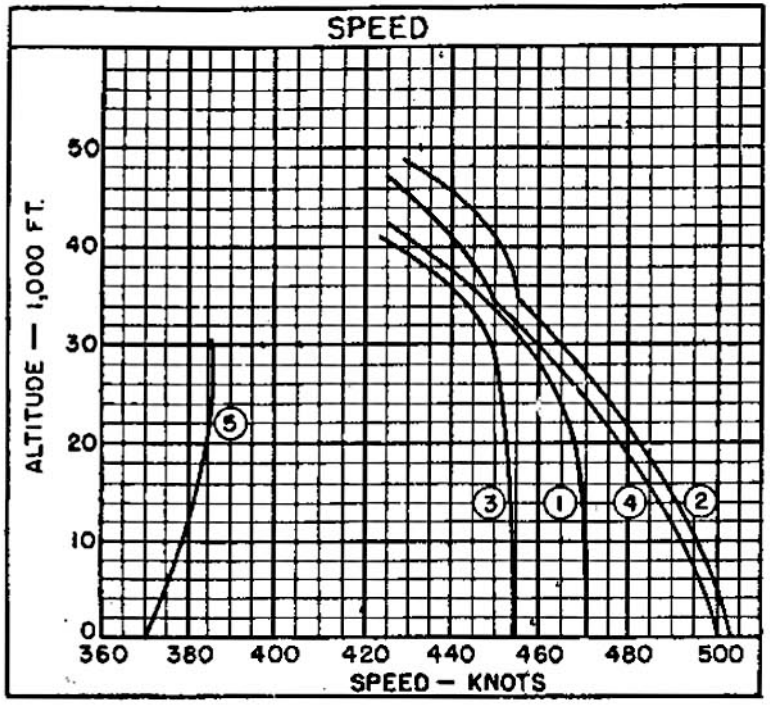
NOTES

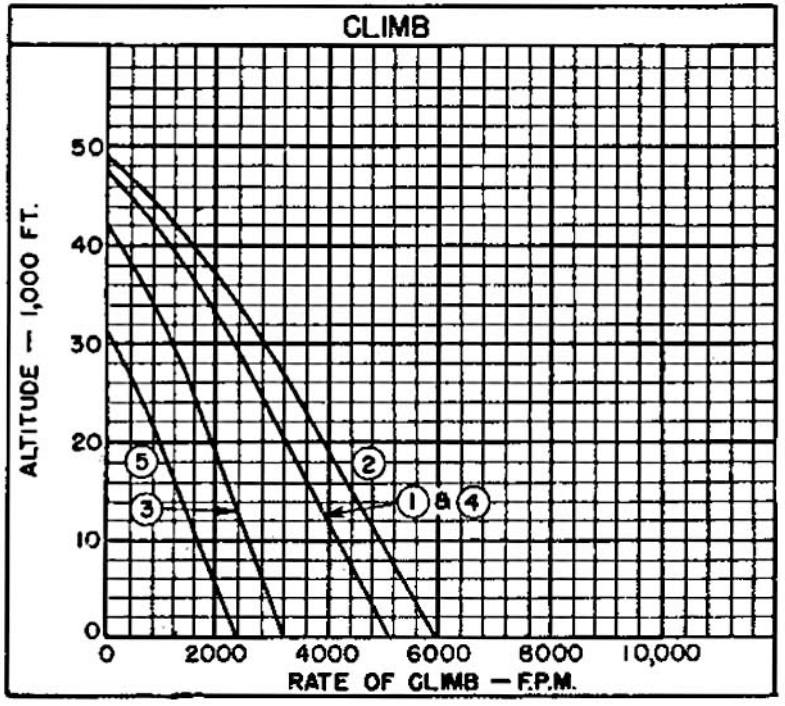
(A) Normal Power
(B) Military Power

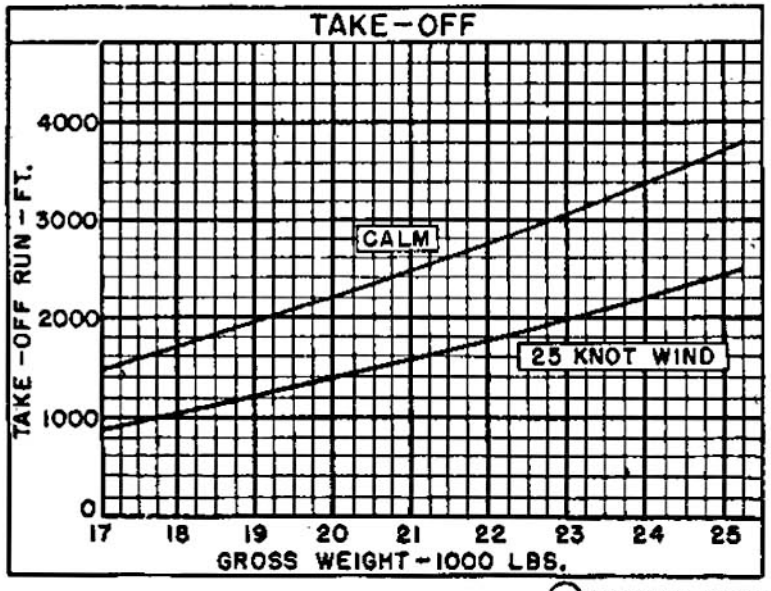
Performance is based on calculations and NATC flight test of the F2H-2 airplane.

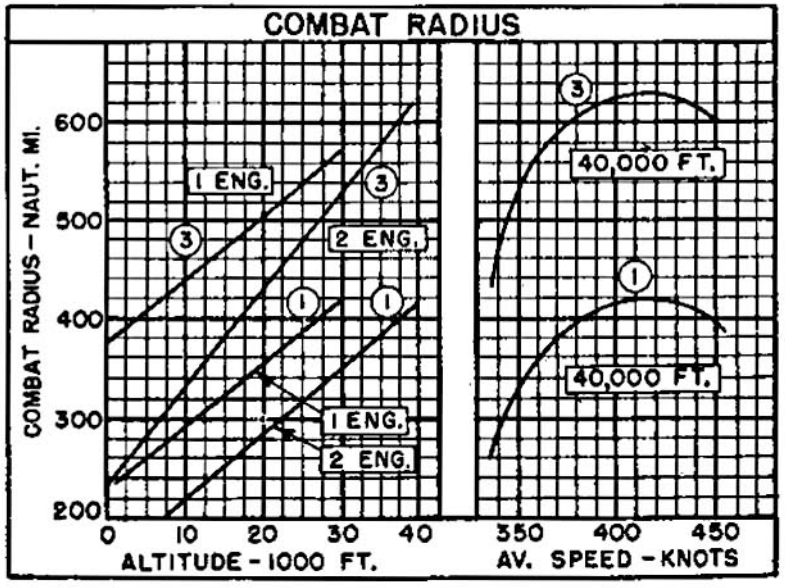
Range and radius are based on flight test fuel consumption increased by 5%.

Spotting: 200 ft. length is required to spot 24 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on the CV-9 class carriers.









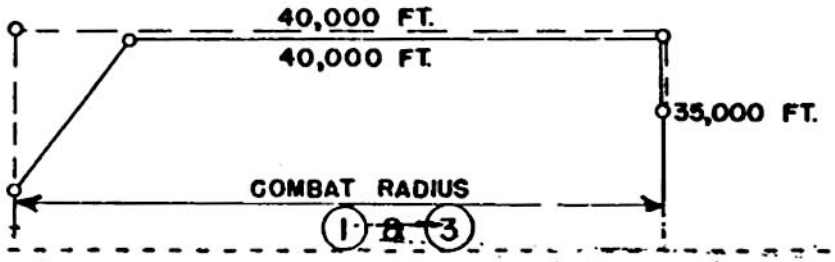
◯ LOADING CONDITION COLUMN NUMBER

NOTES

GENERAL PURPOSE AND ESCORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

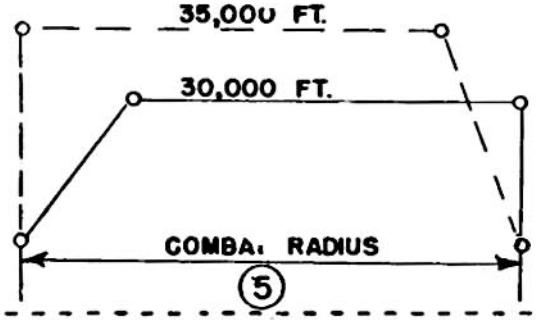
WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.
CLIMB: To 40,000 feet at military power.
CRUISE-OUT: At V for long range at 40,000 feet. External tanks dropped when empty.
DESCEND: To 35,000 feet. (No fuel used, no distance gained.)
COMBAT: At 35,000 feet for 20 minutes at military power. (Assume combat concluded at cruise-back altitude.)
CRUISE-BACK: At V for long range at 40,000 feet.
RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.

COMBAT RADIUS = CLIMB + CRUISE-OUT = CRUISE-BACK



GROUND SUPPORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.
CLIMB: To altitude for maximum radius (30,000 feet) at normal power.
CRUISE-OUT: At V for long range at 30,000 feet. External tanks dropped when empty.
DESCEND: To sea level. (No fuel used, no distance gained.)
LOITER: 10 minutes at V for maximum endurance at sea level.
DROP BOMBS AND FIRE EXTERNAL ROCKETS
COMBAT: At sea level for 10 minutes at military power
CLIMB: To altitude for maximum radius (35,000 feet) at normal power.
CRUISE-BACK: At V for long range at 35,000 feet.
RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.



The F2H-4 airplane is the same as the F2H-3 airplane but carries AN/APG-37 radar instead of AN/APQ-41 radar. Weight and performance of the two airplanes are the same.

ELECTRONICS (Continued)

RADAR.....AN/APG-37
(150 aircraft only)
IFF.....AN/APX-6
IFF (I-R UNIT).....AN/APX-17
(Planned Service Installation)