Explorer I ▪1/6 scale

America's First Earth Satellite

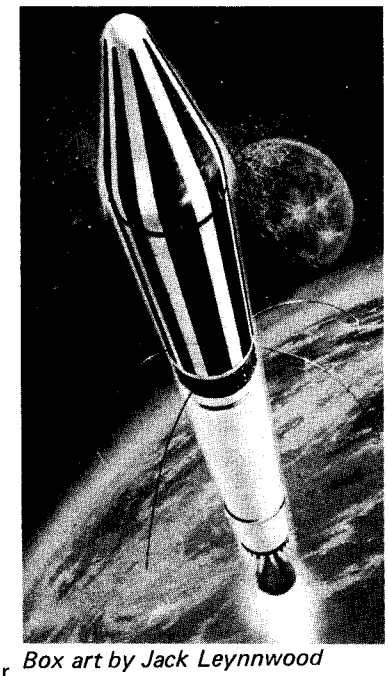
In 1955 the United States and Russia both announced plans for the orbiting of the first Earth satellites during the International Geophysical Year of 1957-58. In the United States, the Navy's Vanguard rocket was chosen as the official satellite launcher over an Army concept called Orbiter. But Russian successes in orbiting Sputniks I and II in October and November 1957 impelled President Eisenhower to give a late go-ahead to the U.S. Army Ballistic Missile Agency (ABMA) to prepare a satellite launch attempt as insurance against Vanguard delays or failures. The launch pad explosion of a Vanguard satellite launcher on December 6, 1957 at Cape Canaveral moved the Army preparations onto the center stage of world attention.

Assisting the ABMA was the Jet Propulsion Laboratory (JPL) in California. Working to a 90 day deadline, the Army prepared an Orbiter-derived booster called Jupiter C, while JPL feverishly worked to build the three solid rocket motor upper stages of the launcher as well as the satellite payload later to be named Explorer I. To simplify design and construction, a cylindrical satellite shape was chosen to allow it to be fitted to the forward end of the fourth stage rocket motor of the Jupiter C. A fiberglass ring, with four 22.5-inch whip antenna wires protruding, divided the aft end solid rocket motor from the forward instrument section. The instrument section housed a 60 milliwatt high-powered transmitter with four weeks of battery power, and a 10 milliwatt low-powered transmitter that was to broadcast signals for nearly four months. Sensitive microphones in the payload section and wire gauges near the end of the motor housing would register micrometeorite impacts. Four temperature sensors measured payload and hull temperatures. By far the most important instrument was a Geiger counter package designed by Dr. James Van Allen of the University of Iowa to measure cosmic radiation. Overall, the Explorer I satellite weighed 30.8 pounds in orbit, was 80 inches long and 6 inches in diameter. While the rear motor section was painted white, the forward instrument section stainless steel hull and nose cone was sandblasted to a dark appearance and striped with an aluminum oxide coating to help control temperatures inside the satellite.

Launched atop a Jupiter C rocket from Cape Canaveral on January 31, 1958, Explorer I entered a higher than planned orbit—225 miles at its low point and 1594 miles at its highest from the Earth. This looping orbit allowed the Geiger counter to first measure the bands of intense radiation surrounding the Earth since named the Van Allen radiation belts. Two more satellites similar to Explorer I, but carrying more sophisticated Geiger counters and a tape recorder, were orbited in 1958—Explorer III on March 26 and Explorer IV on July 26.

Explorer I remained in orbit for over 12 years, finally succumbing to atmospheric drag nad making a fiery reentry over the Pacific Ocean on March 31, 1970 after making 58,408 circuits of the Earth. On that occasion, the late Dr. Wernher von Braun commented, "By today's standards Explorer I was a feeble, first step into space. But in its day, it was an outstanding accomplishment, done on short notice to place the free world in the space race."

—Theodore Talay
Space Frontiers, *Editor*



Box art by Jack Leynnwood

BRITAIN
"CAUTION: NOT SUITABLE FOR CHILDREN UNDER 3 YEARS. CONTAINS SMALL PARTS."

FRANCE
CERTAINS PRODUITE CONTIENNENT DES PIÈCES DE PETITE DIMENSION QUI NE CONVIENT PAS A UN ENFANT DE MOINS DE 36 MOIS.

GERMANY
VORSICHT: NICHT FÜR KINDER UNTER 36 MONATEN—ERTHÄLT KLEINE TEILE.

ITALY
PRODOTTO NON ADATTO AI BAMBINI DI ETA INFERIORE AI 36 MESI. CONTIENE PICOLLO OGGETTI.

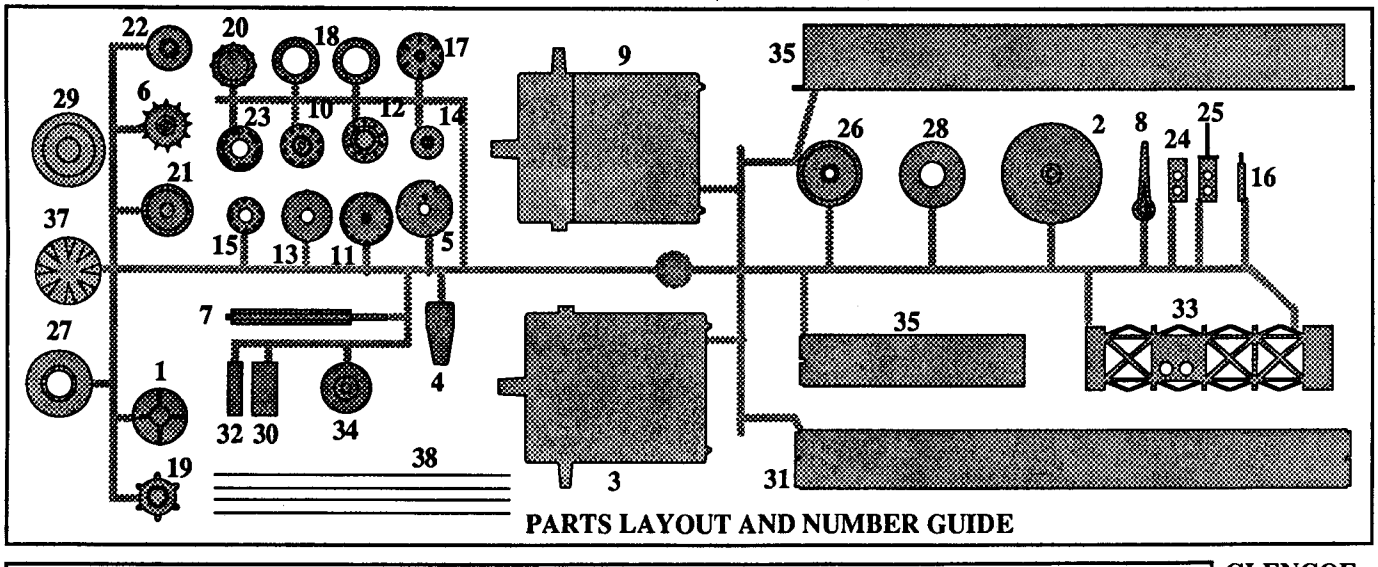
HOLLAND
KAN GEVAAR OPLEVEREN VOOR KINDEREN TOT 3 JAAR. BEVAT KLEINE UNDERDELEN.

PORTUGAL
ATENCAO: IMPRÓPRIO PARA CRIANÇAS COM MENOS DE 3 ANOS. CONTÉM PEÇAS PEQUENAS.

SPAIN
ATENCION: NO ES CONVENIENTE PARA NINOS MENORES DE 3 ANOS. CONTIENE PIEZAS PEQUENAS.

DENMARK
FORSIGTIGI IKKE EGNET TIL BORN UNER 3 AR. INDEHOLDER SMA DELE.

GREECE
ΠΡΟΣΟΧΗ: ΔΕΝ ΕΙΝ ΕΙΝΑΙ ΚΑΤΑΛΛΗΛΟ ΓΙΑ ΠΑΙΔΙΑ ΚΑΤΩ ΤΩΝ ΤΡΙΩΝ ΕΤΩΝ ΠΕΡΙΕΧΕΙ ΜΙΚΡΑ ΤΕΜΑΧΙΑ.



PARTS LAYOUT AND NUMBER GUIDE

Cement Parts — Coller, Kleben, Pegar, Incollare, Colar, Kleven

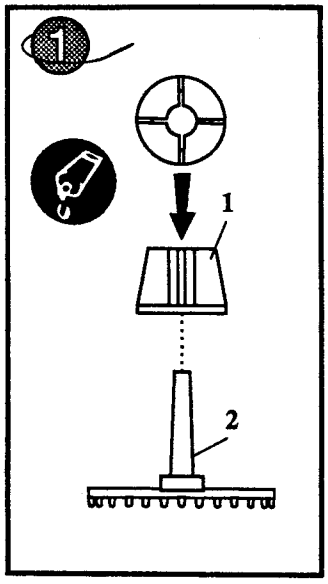
Do NotCement Parts — Ne Pas Coller, Nicht Kleben, No Pegar, Non Incollare, Não Colar, Niet Kleven

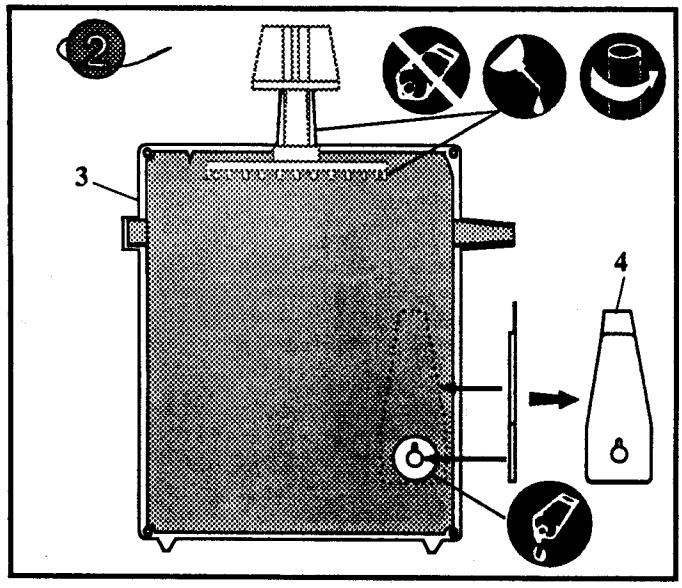
Cut Away — Couper, Scheiden, Cortar, Tagliare, Cortar, Snijden

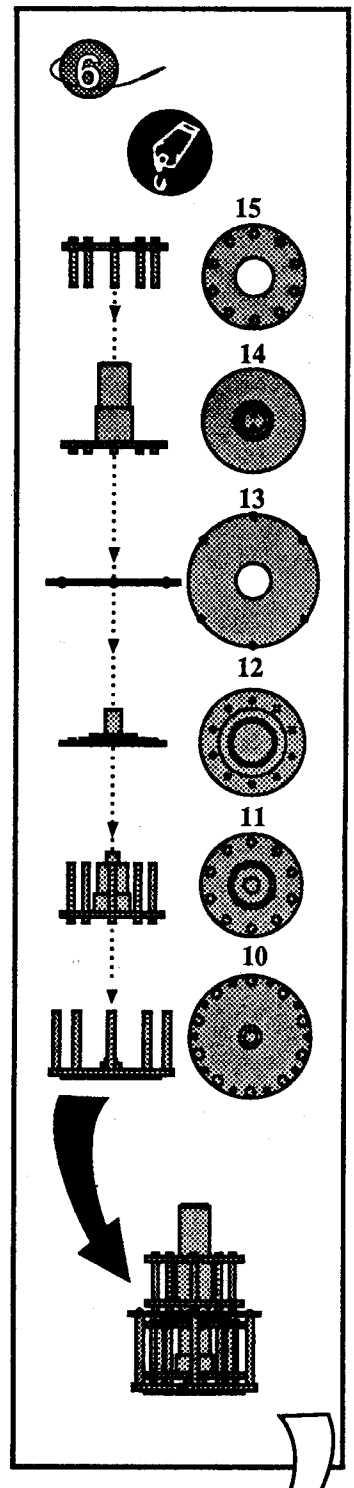
Optional Parts — Choix, Auswahlmoglichkeit, Eleccion, Scelta, Opcao, Keuze

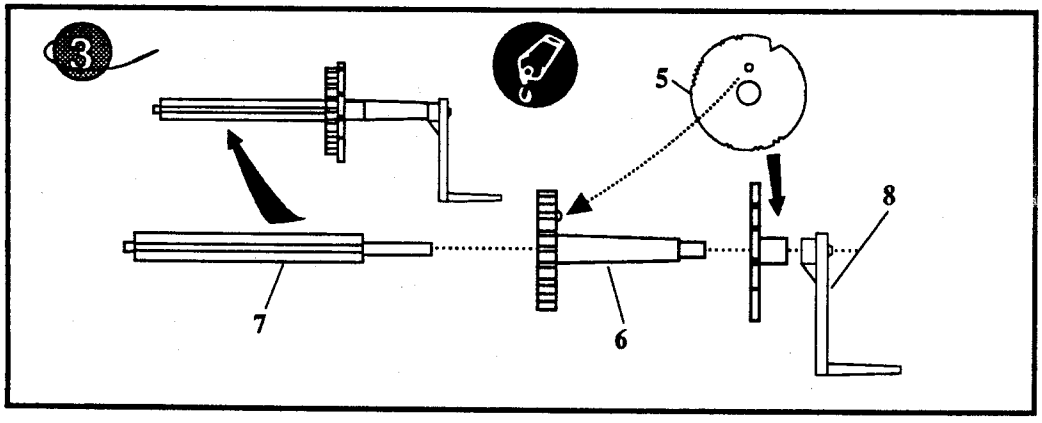
3 Repeat Operation — Répéter l'opération, Vorgang Wiederholen, Repitir la operacion, Repetere, Repitir a Opração, Herhalen

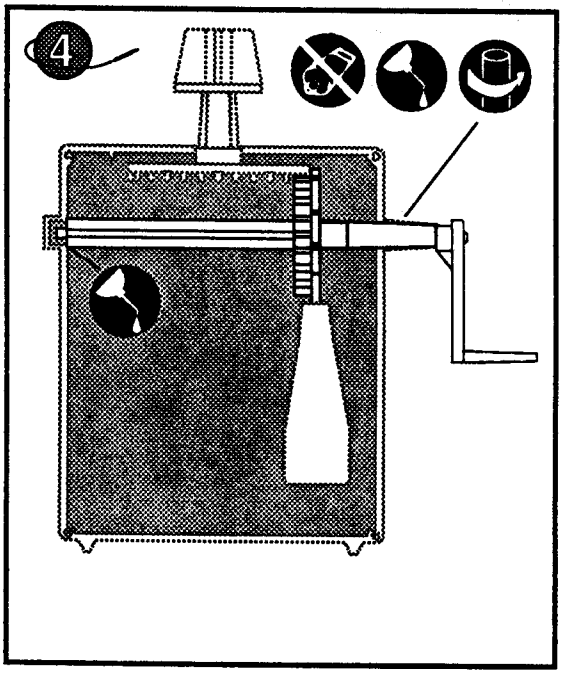
GLENCOE MODELS
Box 846
Northboro
MA 01532
508-869-6877

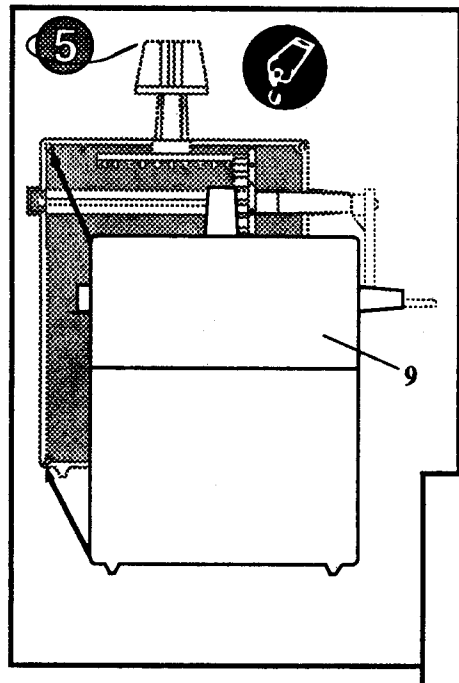

1
1
2
2

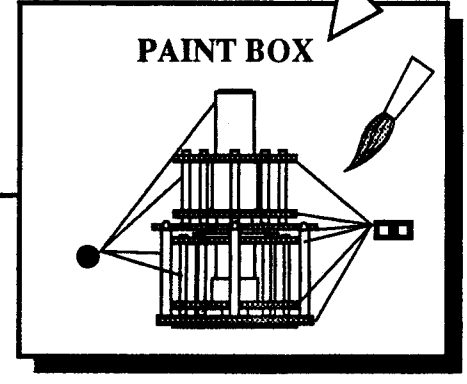

2
3
4

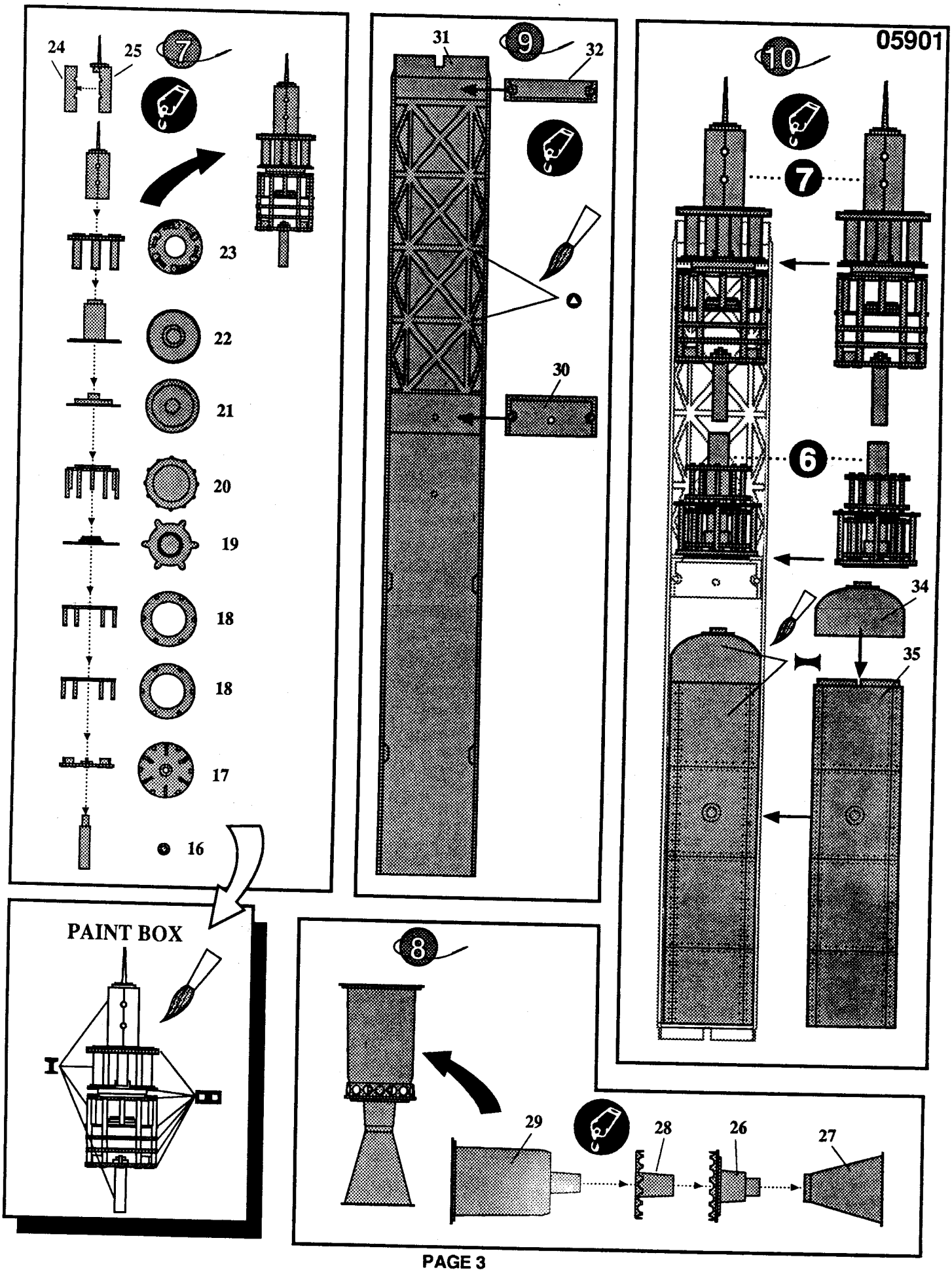

6
15
14
13
12
11
10


3
5
8
7
6


4


5
9


PAINT BOX

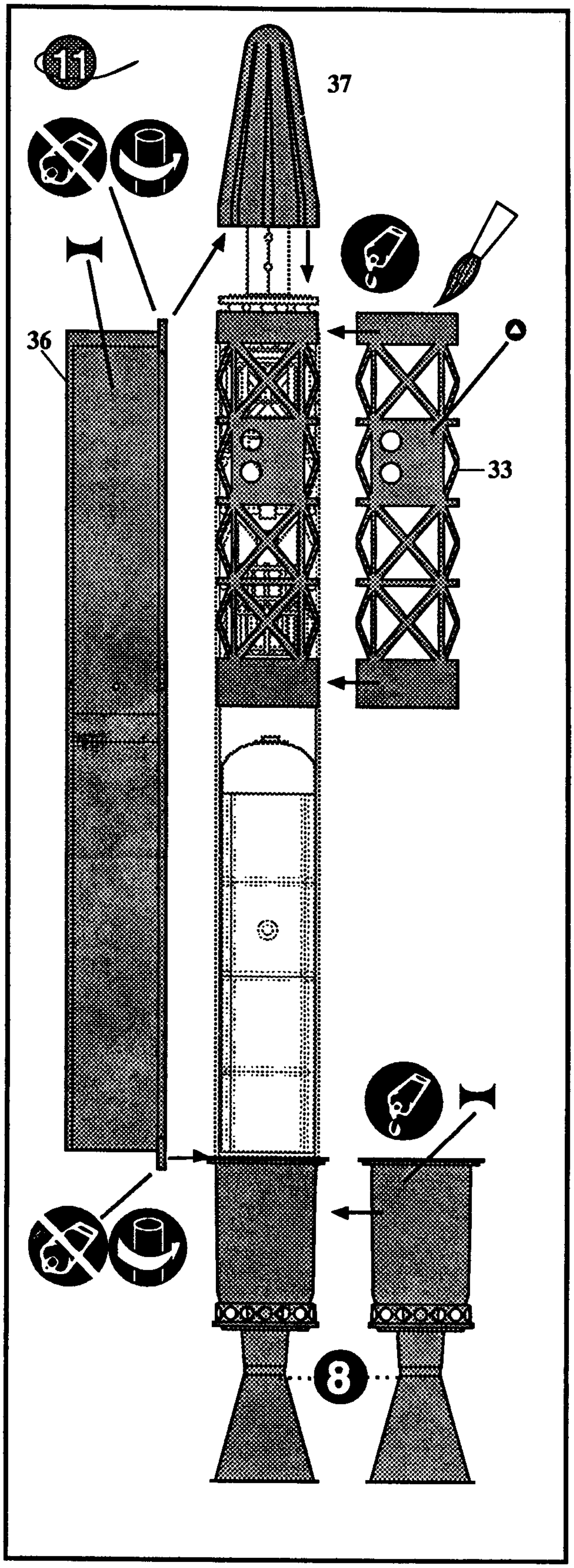

05901
24
25
7
23
22
21
20
19
18
18
17
16
31
9
32
30
10
7
6
34
35
PAINT BOX
8
29
28
26
27

EXPLORER I SATELLITE

05901

GLENCOE MODELS

SCALE-MASTER®
DECALS
Award Winning Art



COLOR SYMBOL IDENTIFICATION

- ■ BLACK
- ▭▭ BROWN FS 20109
- I STEEL
- ▲ BRONZE
- ⌶ WHITE